Administration Report of the Public Works Department in the Province of Bombay for the Year 1937-38

With a detailed review of the Civil and Military Works

ROYAL ASIATIC SOCIETY BRANCH OF THE

BOMBAY
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PROVINCE OF BOMBAY

PUBLIC WORKS DEPARTMENT

DIVISION MAP

1937-38.

Scale – 105 Miles to 1 Inch.

Secretary ..... is a Chief Engineer.
Administrative Zone 'A' ..... } have
Executive Division Zone 'B' ..... } Permanent Circles & Divisions ... Pink.
Zone 'C' shows nature } Road & Buildings Divisions (a) ... Green.
of Executive Division in } Irrigation do (b) ... Blue.
Zone 'B' } — as follows — Mixed a & b & Miscellaneous do. White.

DIAGRAM SHOWING PUBLIC WORKS DEPARTMENT ADMINISTRATION

DECCAN IRRIGATION.

Jurisdiction of Chief Engineer to Govt. ... Whole Province.
Electrical Engineer ..... Do .....

SIND PROVINCE

ARABIAN SEA

CENTRAL INDIA AGENCY

CENTRAL PROVINCES

HYDERABAD

MYSORE

Portuguese Territory

Gulf of Cambay

Gulf of Cutch

Dio I. (Port)

THANA PROVINCE DIVN. BOMBAY

RATNAGIRI

KANARA

GOA

KARWAR

gitized with financial assistance from th
Government of Maharashtra
on 22 July 2017

Photo-Litho'd at the Survey Office, Poona, 1938.

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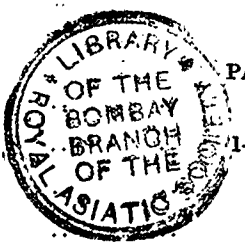

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PUBLIC WORKS DEPARTMENT.

PROVINCE OF BOMBAY.

ADMINISTRATION REPORT WITH A DETAILED REVIEW OF THE CIVIL AND MILITARY WORKS FOR 1937–38.

I.—DIRECTION.

During the year under report, Mr. T. A. Andrew, B.Sc. (Eng.) Glas., I.S.E., continued as Chief Engineer and Secretary to Government until the 1st February 1938 on which date he proceeded on leave preparatory to retirement and Mr. N. B. Baxter, I.S.E., was appointed to succeed him from that date.

II.—ADMINISTRATIVE MEASURES.

A temporary post of Superintending Engineer, Road Development, Bombay Province, and Secretary, Board of Communications, with the pay and status of a Superintending Engineer of the Indian Service of Engineers was created for a period of one year with effect from the 30th April 1937, and Mr. R. A. Fitzherbert, A.C.G.I., A.M.Inst.C.E., I.S.E., was appointed thereto with effect from that date.

Mr. R. H. Hammett, M.Inst.C.E., I.S.E., Deputy Secretary to the Government of Bombay, Public Works Department, has been appointed Superintending Engineer, Road Development, in addition to his own duties with effect from the 19th March 1938, the date on which Mr. Fitzherbert proceeded on leave.

Mr. N. B. Baxter, I.S.E., was appointed Chief Engineer permanent with effect from the 1st February 1938, in the vacancy caused by Mr. T. A. Andrew, B.Sc. (Eng.) Glas., I.S.E., proceeded on leave preparatory to retirement.

Mr. C. W. E. Arbuthnot, C.I.E., B.E., B.A. (R.U.I.), I.S.E., was appointed Superintending Engineer provisionally permanent with effect from the 1st February 1938, *vice* Colonel D. S. Johnston, C.I.E., R.E., I.S.E., Superintending Engineer, in foreign service.

Mr. R. A. Fitzherbert, A.C.G.I., A.M.Inst.C.E., I.S.E., was appointed Superintending Engineer provisionally permanent with effect from the 1st February 1938, *vice* Mr. Arbuthnot seconded to the Public Service Commission, Bombay-Sind.

Miscellaneous.

The Government of India decided that the Government of Bombay should administer the Hydrodynamic Research Station at Khadakvasla as a Central Irrigation and Hydrodynamic Research Station for a period of one year with effect from the 1st April 1937, and accordingly sanctioned the posts of (*i*) Director, with the pay and status of a Superintending Engineer and (*ii*) an Executive Engineer for the Station. Mr. C. C. Inglis, C.I.E., B.A., B.A.I. (Dub.), M.Inst.C.E., I.S.E., and Mr. A. R. Thomas, B.Sc. (Eng.), I.S.E., were appointed Director and Executive Engineer respectively at the Research Station.

The services of Mr. C. W. E. Arbuthnot, C.I.E., B.E., B.A. (R.U.I.), I.S.E., were placed at the disposal of the Political and Services Department for employment as a Member of the Public Service Commission, Bombay-Sind, with effect from the 3rd April 1937.

Mr. S. G. Nadkarni, B.A., B.Sc. (Bom.), M.Sc. (Eng.)' London, A.C.G.I., D.I.C., A.M.I.Mech.E., was recruited on the 1st August 1937, for appointment to the post of Executive Engineer, Electrical Division and Electric Inspector, Bombay. During the probationary period of one year, he worked as Assistant to the Executive Engineer, Electrical Division.

The period of the loan of services of Rao Bahadur B. L. Modak, M.C.E., A.M.I.C.E., A.M.I.E. (Ind.), I.S.E., to the Indore State was extended by two years, i.e., up to the 15th August 1939.

Mr. R. A. Collett, M.Inst.C.E., M.R.San.I., M.Inst.W.E., Executive Engineer, Poona Water Works Division, was appointed on special duty for about a month to report on the feasibility of a comprehensive scheme for utilising the Ulhas river tail race-waters for supply to all the towns up to Bandra.

Under Clause II of the Schedule to the Indian Electricity Act, 1910, Mr. P. C. Das Gupta, M.A., A.C.A., was appointed on the 3rd January 1938, to examine and audit the accounts of the electric supply undertakings in the Province of Bombay and to submit a report to Government on the true financial position of each undertaking.

Mr. N. B. Gadre, B.E., A.M.I.E. (Indi.), I.S.E., was appointed Executive Engineer on Special Duty attached to the Public Works Department Secretariat in connection with the Irrigation Inquiry Committee for about 4 months with effect from the 3rd February 1938.

Mr. W. X. Mascarenhas, B.E., I.S.E., was appointed Secretary of the Irrigation Inquiry Committee.

General.

The Superintending Engineer, Road Development, Bombay, prepared a Priority List of Communication Works for each of the Northern, Central and Southern Divisions in consultation with the local officers in three different categories, viz., Feeder Roads, Roads competitive with Railways

and Other Roads and also drew up a Seven-Year Programme for financing the works. The Priority Lists and the Seven-Year Programme were subsequently approved by the Board of Communications at their meetings held on the 16th November 1937 and the 3rd March 1938, before submission to the Government of India.

The auctioning of strips of land on both sides of the Public Works Department roads during the monsoon was stopped and the village cattle were allowed to graze on these strips free of charge, as auctioning was found to cause much harassment to the villagers on account of the contractors taking away the cattle to the pounds.

The following Masjids in the City and District of Ahmednagar, viz., Malik Ambar's Kali Masjid, Sunheri Masjid, Ek Gumbazi Masjid, Record Room and Civil Jail in connection with Kamani Masjid and Imampur Masjid were being used for Government purposes. During the period under review orders were issued for the immediate restoration of the Kali and Sunheri Masjids and for the reservation of the Ek Gumbazi Masjid for religious use by the Muslim members of the City Police force at Ahmednagar.

With a view to investigating the question of the construction of cheap and durable village roads as also the most suitable and economical type of construction of roads a Committee consisting of the following officers was appointed :—

S. B. Tyabji, Esquire, I.S.E.,
Superintending Engineer, Northern Circle (Chairman).

R. A. Fitzherbert, Esquire, A.M.Inst.C.E., I.S.E.,
Superintending Engineer, Road Development, Bombay Province.

G. D. Daftary, Esquire, I.S.E.,
Superintending Engineer, Southern Circle.

Rao Bahadur B. P. Jagtap, I.S.E.,
Executive Engineer, Presidency Division.

U. N. Mahida, Esquire, I.S.E.,
Executive Engineer, Irrigation Research Division.

A. X. Moraes, Esquire, I.S.E. (Retired).

with Rao Bahadur B. P. Jagtap, I.S.E., as Secretary to the Committee. The investigations of the Committee were in progress during the year under report.

A statement showing expenditure on Establishment in the Roads and Buildings and Irrigation Branches of the Public Works Department for the period will be found in Appendix VI with an explanatory graph.

III.—TERRITORIAL CHANGES.

The Bijapur Division comprising the following Sub-divisions was opened with effect from the 1st February 1938 :—

(1) Bijapur Sub-division ..
(2) Indi Sub-division .. } Transferred from the Belgaum
(3) Bijapur Scarcity Works Sub-division. } Division.

(4) Bagalkot Sub-division .. Transferred from the Dharwar Division.

The Bijapur Scarcity Works Sub-division was opened with effect from the 1st May 1937.

A new Sub-division was formed with effect from the 15th July 1937 by rearranging the marginally* noted three Sub-divisions of the Poona Division into the following four Sub-divisions :—

*Poona Buildings Sub-division .. Poona.
Poona Roads Sub-divisions .. Poona.
Government House Sub-division .. Poona.

Poona Buildings Sub-division	.. Poona.
Poona North Sub-division	.. Poona.
Poona South Sub-division	.. Poona.
Government House Sub-division	.. Poona.

The Mohod Sub-division of the Nira Right Bank Canal Division was amalgamated with the Pandharpur Sub-division of the Sholapur Division in July 1937.

The Jhalod Scarcity Sub-division and the Dohad Scarcity Sub-division were continued till the 31st October 1937, and the latter Sub-division was continued thereafter as an ordinary Sub-division.

The Baramati Experimental Salt Area Sub-division of the Irrigation Research Division was amalgamated with the Baramati Research Sub-division of the same Division with effect from the 17th January 1938.

A map of the Province of Bombay showing the Public Works Department Divisions is annexed to this report.

IV.—DETAILED REVIEW.

A—Civil Buildings.

During the period under Review the total expenditure on the Roads and Buildings Branch of the Public Works Department in this Province was Rs. 1,33,40,184 and the details of expenditure on important works under the various heads are given below :—

Central Services.

Customs—	Rs.
Works	2,469
Repairs	31,790
Total ..	34,259

Salt—	Rs.
Works	41,543
Repairs	90,600
Total ..	1,32,143

The work of constructing an office building for the Salt Department at Viramgam which was in progress was completed during the year under report at a cost of Rs. 30,429. The work of extension for 58 chains from cistern No. 3 of the 4″ pipe line in the water-supply works at Kharaghoda estimated to cost Rs. 17,478 was in progress. Improvements to the Runn Sidings at Kharaghoda were being carried out by the Bombay Baroda and Central India Railway. The work was in progress.

Ecclesiastical—	Rs.
Works	457
Repairs	20,648
Total ..	21,105

Scientific Department—Meteorological—	
Works	1,849
Repairs	5,601
Total ..	7,450

Archæological—	
Works	....
Repairs	39,909
Total ..	39,909

Public Health—Repairs	230

Mint—	
Works	6,150
Repairs	12,503
Total ..	18,653

The work of constructing a strong room of Reinforced Cement Concrete construction and C.I. flooring for storing silver, etc., in the compound of His Majesty's Mint, Bombay, estimated to cost Rs. 53,902 (exclusive of centage charge) was in progress.

Currency—	Rs.
Works	....
Repairs	5,881
Total ..	5,881

Posts and Telegraphs—		Rs.
Works		25,049
Repairs		1,06,063
..	Total ..	1,31,112

Military Works—		
Works		....
Repairs		3,736
	Total ..	3,736

An expenditure of Rs. 162 on repairs and maintenance of the Military Camping Grounds in the Thana Division and a sum of Rs. 223 for clearing the camping ground, etc., in the Ahmednagar Division and at Dhond in the Poona Irrigation Division was incurred during the year. An expenditure of Rs. 105 was also incurred for maintaining the war graves in the cemetery at Belgaum.

Provincial Services.

Land Revenue—		Rs.
Works		4,827
Repairs		4,298
	Total ..	9,125

Excise—		
Works		17,442
Repairs		19,845
	Total ..	37,287

Forest—		
Works		6,999
Repairs		9,559
	Total ..	16,558

Registration—		
Works		....
Repairs		201
	Total ..	201

General Administration—

	Rs.
(*a*) Residences of Heads of Provinces—	
Works	37,076
Repairs	1,96,688
Total ..	2,33,764

The work of providing drainage to Government House, Ganeshkhind, Poona, estimated to cost Rs. 17,167 was completed with an expenditure of Rs. 11,999 during the year.

	Rs.
(*b*) Provincial Legislative Councils—	
Works	9,996
Repairs	13,613
Total ..	23,609
Residences—Repairs	1,543
(*c*) Secretariat and Headquarters Establishment—	
Works	2,832
Repairs	21,753
Total ..	24,585
(*d*) Commissioners and District Officers—	
Works	36,633
Repairs	1,30,965
Total ..	1,67,598
Administration of Justice—	
Works	26,137
Repairs	63,373
Total ..	89,510
Police—	
Works	1,93,414
Repairs	2,23,169
Total ..	4,16,583

The scheme for providing additional accommodation for Police Head Quarters in the Bombay City undertaken in the previous year was in progress and the main building was nearly completed except for some minor changes subsequently suggested and the electric fittings. The original proposal of utilizing the second and third floors for residential quarters was dropped and it was proposed to utilize only the third floor for quarters for 2 Superintendents, as more office accommodation was found necessary. The work of converting the Arms and Ammunition Department office into cells for 20 prisoners was added to the scheme, the total expenditure on which during the year amounted to Rs.1,20,460. The water-supply scheme in connection with the additional quarters for Head quarters police at Sholapur built during 1936–37 was completed for Rs. 3,138. The work of rebuilding the Head Quarters Police Lines, Thana, for 148 units of Constables was in progress during the year, as an additional room was to be provided for each constable as a cook room and tube wells were being provided.

Jails and Convicts—		Rs.
Works	..	11,289
Repairs	..	38,271
Total	..	49,560

Education—		
Works	..	50,722
Repairs	..	1,01,421
Total	..	1,52,143

The work of improving the High School Buildings at Satara was in progress and the expenditure on the same during the year under report was Rs. 13,297.

Medical—		Rs.
Works	..	2,39,237
Repairs	..	1,64,363
Total	..	4,03,600

The work of improvements to the Hospital kitchens at the J. J. Hospital, Bombay, comprising of rearranging and extending the existing kitchen accommodation so as to give six suitable kitchens with one store room in one block with modern arrangements and closed front verandah costing Rs. 28,327 (inclusive of percentage charges) was completed during the year. The extension to the Labour Ward and constructing quarters for House Surgeons on the first floor of the Cama and Albless Hospital, Bombay, was completed for Rs. 24,810 (inclusive of

the percentage charges) the whole of the new building being named "Dr. Cecilia D'Monte Block", Dr. Mrs. Cecilia D'Monte having donated a sum of Rs. 16,000 towards this building. The work of improving the sanitary conditions of the surroundings of the buildings in the compound of the J. J. Hospital, Bombay, comprising of paving with Shahabad stones around certain buildings was carried out for Rs. 8,983 and that of extensions and improvements to the Bai Motlibai Hospital, estimated to cost Rs. 1,45,981 was in progress. Additional accommodation was provided in the Mental Hospital, Ahmedabad, by constructing three new blocks, two for male patients and one for female patients, at a cost of Rs. 30,788. A sum of Rs. 79,999 was spent in connection with the work of providing additional accommodation for patients at the Central Mental Hospital, Yeravda, which was in progress during the period.

	Rs.
Agriculture—	
Works	1,446
Repairs	17,533
Total ..	18,979
Public Health—	
Works	19,712
Repairs	36,106
Total ..	55,818
Industries—	
Works	50,344
Repairs	1,711
Total ..	52,055

The following works were also carried out during the year in connection with the R. C. Technical Institute, Ahmedabad:—

	Rs.
(1) Construction of a new boiler house ..	3,361
(2) Providing fresh water-supply arrangements and disposal of waste water, etc. ..	2,217
(3) Reconditioning the existing shed converted into dyeing laboratory	3,982
(4) Extension of the Textile workshop ..	11,404
(5) Extension of the Institute	24,824

The work of reconditioning the workshop block of the Victoria Jubilee Technical Institute, Matunga, by strengthening the foundations and

making the roof of the building water-proof with Bituminous Precast Roof sheeting costing Rs. 59,603 was in progress and an expenditure of Rs. 11,778 was incurred thereon during the period under review.

Stationery and Printing—		Rs.
Works	..	2,037
Repairs	..	9,493
Total	..	11,530

Civil Works—		
Works	..	45,154
Repairs	..	1,79,228
Total	..	2,24,382

A statement showing expenditure on Civil and Military Works during the period under review will be found in Appendix I and that on Provincial Buildings and roads in Appendix IV with explanatory diagram.

Miscellaneous Departments—		Rs.
Works	..	3,646
Repairs	..	8,838
Total	..	12,484

Miscellaneous—		
Works	..	3,178
Repairs	..	50,133
Total	..	53,311

Government Central Stores, Workshop and Training Centre, Dapuri.

During the period under review the total outturn including the closing balance of Rs. 3,499 was Rs. 1,37,556 as against Rs. 1,39,196 of the previous year. The work was of a varied nature and as usual included repairs to road rollers, pumps of all deseriptions, casting of Everite Specials, repairing a number of gauges for the Director of Hydrodynamic Research Station, repairs to sluice gates and manufacture of spare parts for road rollers. The work of overhauling a Worthington Simpson Pumping Engine (capacity 1,00,000 gallons per hour) was carried out in the workshop very satisfactorily for the Surat Municipality. The casting of Everite Specials was again continued and work to the extent of Rs. 12,587 was done during the period.

The number of apprentices receiving training on the 31st March 1938 was 27 and 9 completed their training.

The number of work orders during the year opened at 385 and closed at 409.

The total expenditure incurred on account of the training of apprentices amounted to Rs. 2,498. The boring works undertaken on behalf of the Ahmedabad Municipality continued throughout the year. In addition to this enquiries were received from numerous mills and deposits have been received from the undermentioned Mills :—

Mills—	Rs.
Sri Ambika Mills	9,071
Asarva Mills	4,486
Rohit Mills	5,034

The total value of Public Works Department surplus tools and plant issued to other Divisions amounted to Rs. 12,794. Had new plant been purchased it would have cost Government Rs. 15,993.

During the year under report 9 pumping plants of (1) Uran Water Works, (2) Poona Water Works, (3) Karad Water Works, (4) Bahiroba Water Works, (5) Pandharpur Water Works, (6) Dharwar Police Lines Water Works, (7) Hubli Water Works, (8) Amalner Water Works and (9) Surat Drainage and 27 road rollers (21 old and 6 new) were inspected and tested.

With a view to examining the whole question and seeing how to make the best use of the existing workshop a committee was appointed with the Superintending Engineer, Central Circle, as Chairman and the following officials as members :—

(1) Director of Industries ;

(2) Principal, College of Agriculture ;

(3) Principal, College of Engineering ;

(4) Consulting Public Health Engineer to Government.

The Committee was to submit a report on the following points :—

(1) Could the Dapuri Workshop be used as an experimental workshop for the Industrial Department ;

(2) Could it be used in connection with the degree course in Mechanical Engineering which has been prescribed by the University for Post Matric students ;

(3) Could it be used for manufacturing implements in connection with agricultural and cottage industries for sale at rates lower than those charged by private workshops. The report was awaited.

B—Electrical.

Electric Licenses.

Electric supply continued to attract the attention of the public in an increasing degree. Four new licenses and one sanction under Section 28 of the Indian Electricity Act, 1910, were granted during the year under report (1937–38) for the supply of electricity to Udwada-Vapi, Mahad, Talegaon, Igatpuri, and the Willingdon College and Sir Wanless Sanatorium in Kupwad village in the Satara District, while consideration of several additional applications was held up pending decision on the revised policy to be pursued in respect of the grant of electric licenses. By the end of the year under review, electricity had been introduced in 54 centres in the Province and 9 other centres were in the process of being electrified. The number of licenses excluding those revoked, but including sanctions under Section 28 of the Indian Electricity Act, actually in operation in the Province at the beginning of the year was 65 while at the end of the year the number operating was 69.

Electricity Duty.

The electricity duty was first imposed by the Finance Act of 1932 and has continued to be in operation in the succeeding years. The receipts from the tax amounted to Rs. 12,07,237 during the year 1937-38. The receipts are credited to the head "XIII—Other Taxes and Duties" (Provincial).

Appointment of a Committee to investigate into the rates of Electric Supply Companies.

A committee was appointed during the year under report consisting of the following members to investigate into the rates of all the Electric Supply Companies of more than seven years standing and to recommend the maxima rates which they can be allowed to charge :—

Chairman.

Dewan Bahadur Krishnalal M. Jhaveri, M.A., LL.B., J.P.

Members.

Mr. P. B. Advani, M.Sc. Tech., M.I.E., J.P., Director of Industries, Bombay.

Mr. P. C. Das Gupta, M.A., A.C.A., Special Auditor.

Mr. R. G. Higham, M.I.E.E., J.P., Electrical Engineer to Government.

Mr. R. G. Higham, Electrical Engineer to Government acted as Secretary to the Committee in addition to his duties as a member. The investigations of the Committee were in progress at the close of the year.

Electrical Works.

Expenditure as detailed below was incurred in the Electrical Branch during the year :—

	Rs.
(*a*) New works and additions to the existing installations	57,040
(*b*) Repairs	1,79,458
(*c*) Tools and Plant	13,893
(*d*) Temporary illumination on the occasion of the Coronation of Their Majesties	70,134*
	3,20,525

The following important works were carried out :—

(1) Providing electric installation in the Central Prison and Quarters attached to it at Sabarmati, Ahmedabad	19,610
(2) Additions and alterations to the electric installations and replacing the existing refrigerating plant at Haffkine Institute, Parel, Bombay	18,431

The work of providing electric installation in the Development Department Chawls Nos. 1 to 20 on plot " A " and 21 to 40 on plot " B " at Worli costing Rs. 8,346 was in progress. In all 210 original works were carried out during the year.

On the occasion of the Coronation of Their Majesties on the 12th and 13th May 1937, 111 Government buildings in the City of Bombay and District Head Quarters Towns were illuminated and the total number of lights used was 82,526. Seventy-three special repairs works were carried out. While the revenue on account of the sale of electricity to the Bombay Development Scheme was Rs. 13,165 the amount of expenditure on the same was Rs. 21,668. The total expenditure on original works and repairs amounted to Rs. 52 and Rs. 197 respectively.

The graph showing the units of electricity sold during the year is annexed to this report.

C—Communications.

The total expenditure incurred during the year under this head was as follows :—

	Rs.
Works	42,20,837
Repairs	28,58,618
Total ..	70,79,455

* Excluding percentage charges.

The principal works either in progress or completed during the year were :—

(1) Constructing a three stage landing at Dharamtar.

(2) Improvements to Madhi-Mandvi and Kodad-Tarsada Roads.

(3) Improvements to Taloda-Shahada Road (Section I from Taloda to Prakasha).

(4) Improvements to Taloda-Shahada Road (Section II from Prakasha to Shahada).

(5) Dhadgaon-Shahada Road (Section IV from Dara to mile 3/7 of Shahada-Khetia Road near Mohida).

(6) Additions and alterations to the Native Infantry Hospital, Satara, for conversion into an Inspection Bungalow.

A statement showing the lengths of metalled and unmetalled roads maintained by the Public Works Department and the local authorities during the period is given in the Appendix II and the mileage of surfaced roads of various classes and motorable earth roads in Appendix III. Expenditure on District Local Board roads is given in Appendix V together with a diagram representing the same.

Petrol Tax Fund.

A sum of Rs. 25,11,100 was held by the Government of India to the credit of this Government during the year to be allotted as required. The Board of Communications met twice during the year for transaction of business. A list of members of the Board of Communications as on 31st March 1938 will be found in Appendix VIII.

The following works were carried out from the Petrol Tax Fund and the expenditure incurred on them during the year was as shown below:—

Northern Circle.

		Rs.
1.	Constructing a Reinforced Cement Concrete bridge with approaches but without footpaths over the River Patalganga near Kharpada in mile 7/6 of the Pen-Panvel Section of the Bombay-Konkan-Goa Road	57,212
2.	Constructing high level causeway over Balganga river and diversion in mile 4/7 of the Pen-Panvel Section	4,632
3.	Improvements to soft portions in mile 29 and 32 to 67 of Bombay-Poona Road ..	15,169
4.	Constructing Talasari-Vapi Road miles 1 to 16.	26,085
5.	Widening the bridge No. 110 in mile 14/6 of Bandra-Ghodbunder Thana Road ..	4,578
6.	Raising and widening the roadway in mile No. 27 of Bombay-Poona Road.. ..	10,188

MODERNIZING BOMBAY POONA ROAD MILE No. 45 F. 4 to 7.
Colloidal Concrete Grouting in Operation.

		Rs.
7.	Constructing cross drainage works on Dohad-Alirajpur Road	2,779
8.	Constructing a culvert in mile No. 2/6 of the Dakore-Pali Road	4,400
9.	Constructing a culvert on Konewal-Kotur in mile 15/3 in place of existing dip on Mehuda-Dakore Section	4,999
10.	Widening the asphalt macadam width of mile 6/4 to 9/7 in the section from Andheri to Mira of Bandra-Ghodbunder Road	24
11.	Making survey for the proposed improvements to the existing Pen-Panvel Road, a section of Bombay-Konkan-Goa Road	175
12.	Special tools and plant classified as original works (Thana Division)	34,447
13.	Grant-in-aid to District Local Board, Bombay Suburban District, for modernising Kurla-Andheri-Versova Road	31,962
14.	Purchase of Steam Road Rollers for Surat and Broach	11,430
15.	Modernisation of road surface Dhandhuka-Ranpur Road with $\frac{3}{4}''$ asphalt coat from 0/0 to 0/4 and 7/6 to 18/2 near Dhandhuka and Ranpur towns	6,674
16.	Modernisation of road surface of Ahmedabad-Barwalla Road with $\frac{3}{4}''$ asphalt coat 0/0 to 0/4 of Dhandhuka-Barwalla Road near Dhandhuka Town	6,634
17.	Improvements to Dharamtar-Campoli Road ..	45,417
18.	Widening drains Nos. 48 and 49 and improving curves in mile 7/1 of the Bandra-Ghodbunder Road	4,887
19.	Improving miles 1 to 26 of Dahanu-Jawhar Road	20,088
20.	Widening the bridge in mile 37/3 of Bombay-Poona-Bangalore Road	8,772
21.	Providing $2\frac{1}{2}''$ asphalt macadam surface over $3''$ water bound macadam from miles 22-7-415 to 23-4-153 of the old Bombay-Agra-Road was included in the Bombay-Poona Road ..	14,778
22.	Providing $2\frac{1}{2}''$ asphalt macadam surface over $3''$ water bound macadam on Bombay-Agra Road miles 13/1 to 17/8	1,19,594

		Rs.
23.	Widening the existing asphalt width and providing stone kerbing at the edges in mile 9/6 to 11-1-460 of Bombay-Agra Road ..	13,461
24.	Rebuilding culvert No. 9 in mile 2/3 of the Pen-Panvel Section and slab drains of two openings on Bombay-Konkan-Goa Road ..	5,643
25.	Constructing a Reinforced Cement Concrete Bridge over Palaspa Nalla with approaches in mile 17/4 of the Pen-Panvel Road ..	6,860
26.	Modernising Kurla-Andheri-Versova Road ..	51,381
27.	Providing $2\frac{1}{2}''$ asphalt macadam surface on miles 9/8 to 12/8 of the Bandra-Ghodbunder Road	62,522
28.	Proposed widening of the Poisar Bridge on Bandra-Ghodbunder Road in mile 11/4 (Andheri-Mira Section)	6,496
29.	Improving and widening Thana-Ghodbunder Road in mile No. 9	9,998
30.	Improvements to Juhu-Santa Cruz Road ..	24,957
31.	Improving miles 4 to 9/6 of Matwad-Navsari Section	1,482
32.	Reconstructing the Tancha Nalla Bridge in mile 18/2 of Broach-Jambusar Road ..	13,498
33.	Constructing a cross drainage work over Balda nalla in mile 4 of Madhi-Mandvi Road ..	6,176
34.	Improvements to miles 9/2 to 16/2 of Madhi-Buhari Road	14,990
35.	Modernising miles 2/4 to $6/6\frac{1}{2}$ near Surat town with $\frac{3}{4}''$ premix carpet on Surat-Sabargam Road	30,223
36.	Modernising road surface in miles 1/4 to 4/4 near Broach Town with $\frac{3}{4}''$ premix carpet on Broach-Jambusar-Road	18,612
37.	Modernising the road surface in mile 1/1 to 2/2, 4/0 to 5/2 and 11/0 to 12/2 near Surat City with $\frac{3}{4}''$ premix carpet on Surat-Olpad Road	17,209
38.	Modernising the road surface in mile 0 to 1/2 to Ankleshwar-Hansot Road with $\frac{3}{4}''$ premix carpet	9,799
39.	Providing rubble stone bedding and remetalling portions of Dohad-Alirajpur Road ..	6,729

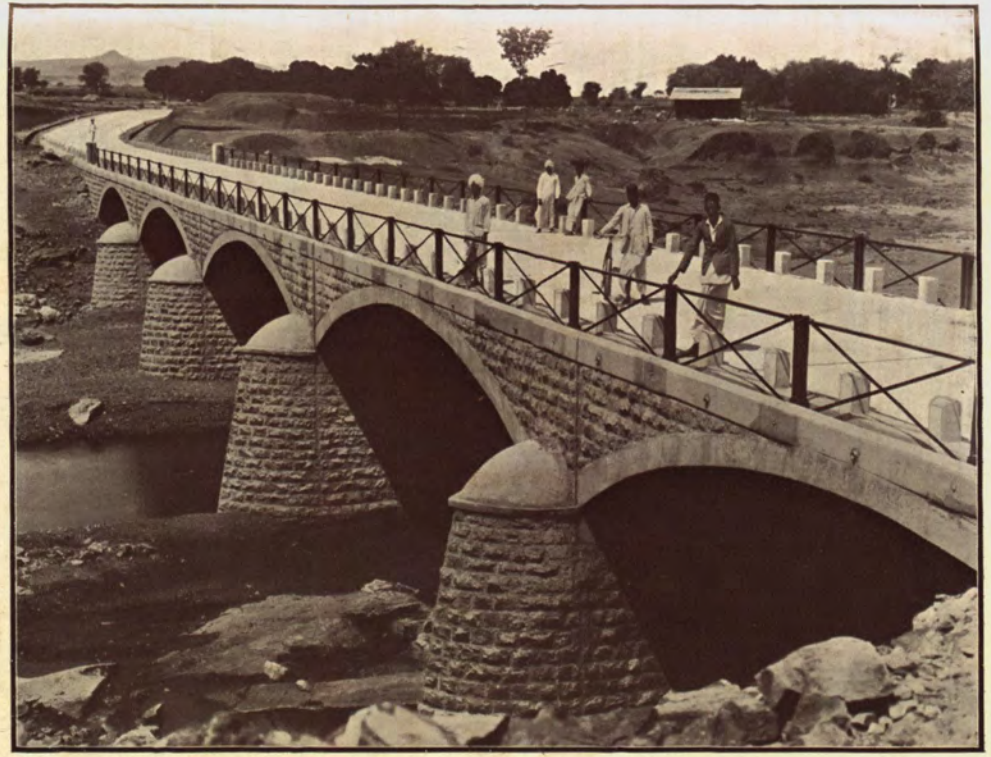
Vijayagadh Tank. View showing Puddle Trench (Taluka Dohad.)

		Rs.
40.	Modernising Dohad-Jhalod Road, miles 0 to to 2 near Dohad Town	24,066
41.	Modernising the Civil Station Road at Godhra, mile 0/0 to 2/0	15,000
42.	Improving Mehemedabad-Dakor Road (1st section Mehmedabad to Mahudha) ..	23,213
43.	Modernising the Nadiad-Kaira Road, miles 0–3–100 to 2–4–0 near Nadiad Town ..	33,038
44.	Modernising the Nadiad-Anand Road, mile 0/4 to 1/4 and link road 0/0 to 0–4–388 near Nadiad Town	32,952
45.	Modernising Nadiad-Kapadwanj Road, mile 0/0 to 0–1–295 and from 0–2–295 to mile No. 2 near Nadiad Town	13,995
46.	Improving Bavla-Bhayla Road ..	39,984
47.	Modernising the surface of the Ahmedabad-Barwala Road Section I with $\frac{3}{4}$" asphalt coat in mile No. 19/5 to 20/4 near Bavla ..	11,320
48.	Providing 2" premixed asphalt macadam in mile 1/5 to 5/8 of Ahmedabad-Sarkhej Section of Ahmedabad-Viramgam Road ..	59,837
49.	Modernization of the road surface in mile 36/2 to 36/5 of Ahmedabad-Viramgam Road, Section III near Viramgam Town with $\frac{3}{4}$" asphalt coat	7,196
50.	Modernization of road surface of Viramgam-Mandal Road with $\frac{3}{4}$" asphalt coat from 0/6 to 1/2 near Viramgam Town and 13/5 to 14/5 near Mandal Town	7,923
51.	Metalling and improving the road from Viramgam to Mandal during the year ..	20,052
52.	Diverting a portion of Dhandhuka-Dhollera Road passing through Dhandhuka Town ..	12,012
53.	Constructing a road from Dhollera to New Dhollera Port	29,964
	Deccan Irrigation Circle.	
54.	Constructing a road bridge No. 221 in mile 38/5 of Poona-Sholapur Road	19,687

		Rs.
55.	Constructing a bridge of Reinforced Concrete Cement girder type over the river Kas near Bota on Poona-Nasik Road mile No. 60/7 ..	33,131
56.	Reconstructing and substantially improving the Poona-Sholapur Road from miles 5/1 to 35	49,993
57.	Reconstructing and substantially improving the Baramati-Sangvi Road from miles 0 to 8/3	38,797
58.	Reconstructing and substantially improving the road from Belapur Station to Sangamner	41,780
59.	Constructing a Reinforced Concrete Cement Bridge of two openings of 25′ each over Kasti Nalla in mile No. 42/5 of Nagar-Dhond Road	2,999
60.	Modernising roads in and adjoining Ahmednagar City and Cantonment Limits ..	1,30,288
61.	Purchase of one Road Roller	14,000

Central Circle.

62.	Making improvements to low-lying miles 75 to 84 on Poona side of Khandala and laying $2\frac{1}{2}''$ premix asphalt in certain miles of the Bombay-Poona Road	26,397
63.	Modernising miles 3–13 on Poona-Satara Section of the Bombay-Poona-Bangalore Road	62,584
64.	Modernising roads in Poona (I and II Instalments)	1,06,029
65.	Improving curves in miles 67–71 (Bhor-Ghat) of the Bombay-Poona-Bangalore Road ..	12,645
66.	Modernising roads in Poona (III instalment)	1,12,491
67.	Constructing a Reinforced Cement Concrete submersible bridge over the Krishna river at Karad on Karad-Bijapur Section of Chiplun-Karad-Jath-Bijapur-Shindgi-Raichur Road.	1,88,617
68.	Improving Kumbharli Ghat—miles 39 to 47 (West from Karad) of Chiplun-Karad-Jath-Bijapur-Shindgi-Raichur Road ..	3,485
69.	Reconstructing dangerous masonry works between Chiplun and Karad in mile 47 to Karad	15,919

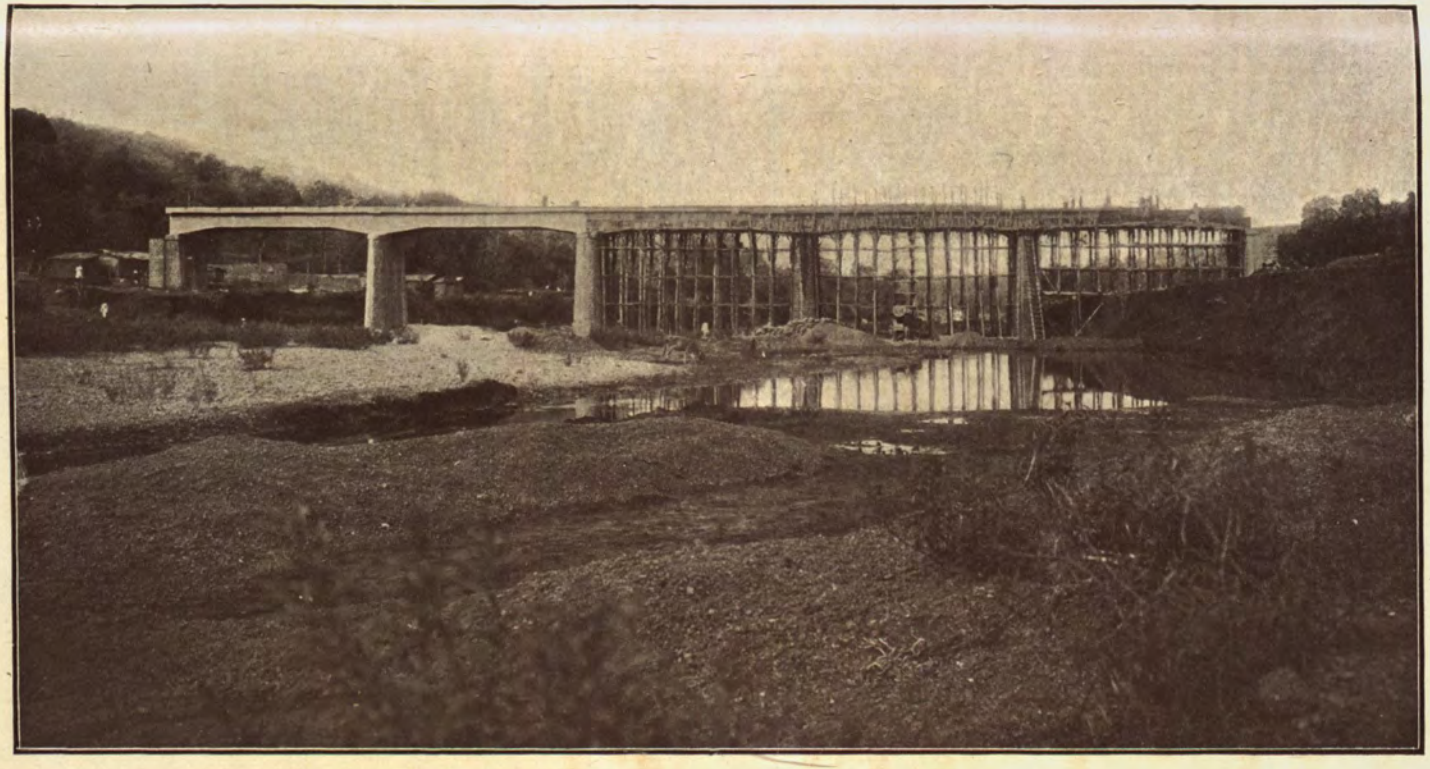


R. C. SUBMERSIBLE BRIDGE OVER THE NANDNI RIVER ON THE KARAD-JATH-SECTION OF THE CHIPLUN-KARAD-JATH-BIJAPUR-SHINDGI ROAD.

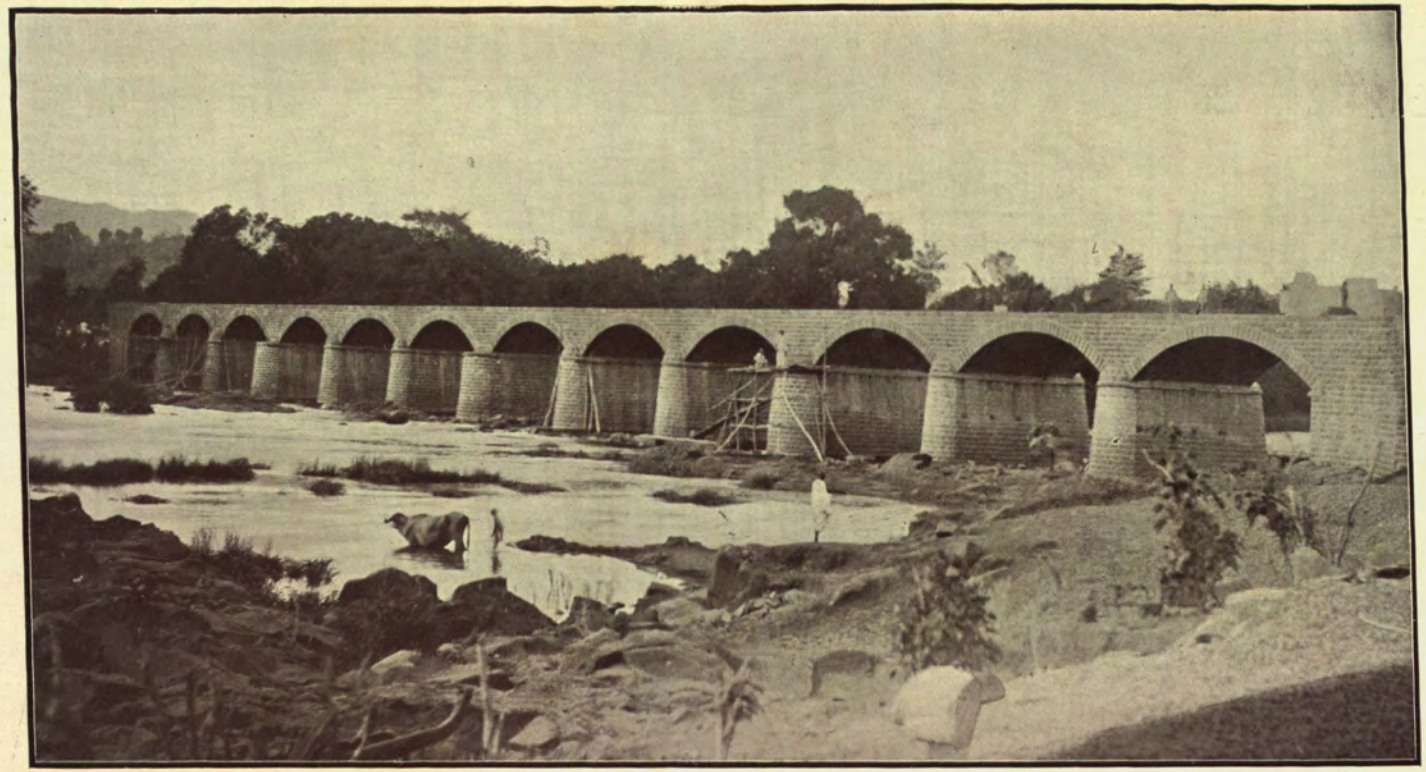
Photo taken on 28th March, 1938.
The work was commenced in February, 1937.
Estimated Cost of the work: Rs. 56,370.
Total expenditure to end of the year under report, i. e. to end of March. 1938: Rs. 50,880.
The work is in progress.

		Rs.
70.	Crossing over the Nandni River on Karad-Jath Section of Chiplun-Karad-Jath-Bijapur-Shindgi-Raichur Road	49,887
71.	Modernising a portion of Mahableshwar-Surul Road, miles Nos. 14/5 to 16/4 inclusive of Poladpur-Mahableshwar-Surul Road ..	23,776
72.	Asphalting Provincial roads at Sholapur on the Sholapur Osmanabad-Yedshi-Chausala Road	8,001
73.	Asphalting Provincial Roads at Sholapur—Sholapur-Hyderabad and Sholapur-Bijapur Roads	34,923
74.	Improving low-lying miles near Igatpuri on Igatpuri-Ghoti Section of Bombay-Agra Road.	15,083
75.	Improving 4 furlongs in mile 125 beyond the level crossing near Nasik Road Station on the Nasik-Poona Road	7,718
76.	Treating the water bound Macadam surface with Shel-Macadam on Nasik Station Road..	46,726
77.	Modernising miles 114, 115 and 116 at Nasik on Vihigaon Nasik Section of the Bombay-Agra Road	43,400
78.	Modernising the first two miles from Nasik on Nasik-Trimbak Section of the Nasik-Trimbak-Gondaghat Road	50,413
79.	Modernising the whole road ($3\frac{1}{2}$ miles) of the Camp Deolali Road	11,997
80.	Providing Shalimar Premix tar carpet $1\frac{1}{2}''$ thick, Shalimar tar surface treatment and cut back asphalt carpet $1\frac{1}{2}''$ etc., to the Nasik Station Road	20,300
81.	Treating surface with premixed asphalt macadam $2\frac{1}{2}''$ thick with $\frac{1}{2}''$ seal coat consolidated on the Nasik Station Road	15,000
82.	Improvements to the road in miles 18–45 and 46 to 83 of Shirpur-Raver Section of Burhanpur-Raver-Yawal-Chopda-Shirpur-Shahada-Taloda-Raisingpur Road	77,090
83.	Certain works in connection with asphalting Provincial roads passing through Dhulia ..	89,992
84.	Sub-work III of Improvements to Nasik Station Road—viz., repairing existing treated surface of Nasik Station Road, miles 125/4 to 128 and 129/0 to 129/3 furlongs and 12′ along the Nasik Road and 0/0 to 0/1 along Station Diversion	2,083

		Rs.
85.	Constructing a road from Yedshi Railway Station to Chousala town in Nizam's Territory.	2,492
86.	Improvement to the Road from Yedshi to Osmanabad	273
87	Certain works in connection with extension from Edlabad to Ichhapur of the Dhulia-Bhusawal-Edlabad-Nagpur Road ..	1,57,645
	Southern Circle.	
88.	Bridge over the Bhamburda river in mile 11/8 of the Math-Kasal Road	4,694
89.	Diverting the Bombay-Konkan-Goa Road near Kudal town on Math-Kasal Road ..	3,284
90.	Improvements to Poona-Bangalore Road Section from Sankeshwar to Belgaum ..	98,941
91.	Improvements to Poona-Bangalore Road Section from Kolhapur to Sankeshwar ..	1,60,985
92.	Raising the level of the existing causeway over the Malaprabha river at Mugutkhan Hubli in mile 232/3 of Poona-Bangalore Road ..	27,193
93.	Improvements to Poona-Bangalore Road Section from Satara Border to Kolhapur ..	49,965
94.	Modernising the roads in and round about Belgaum	54,995
95.	Asphalting miles 264 to 226 of Poona-Bangalore Road with 2½″ Premix with 1/2″ mixed seal coat and final seal coat	41,388
96.	Asphalting miles 267 to 270 of the Poona-Bangalore Road	14,618
97.	Improvements to bridge No. 63 in mile 13/5 of the Dharwar-Goa Road	11,896
98.	Improvements to Dharwar-Saundatti-Yergatti-Gokak-Sankeshwar Road, Section (*i*) Dharwar District Border and (*ii*) Dharwar District Border to Saundatti	20,459
99.	Reconstructing one mile 274/5 to 275/4 of the Poona-Bangalore Road, with "Shelmacadam"	5,300
100.	Asphalting mile 0 to 1/2 of the Hubli-Sholapur Road	37,104
101.	Improvements to Havnoor-Ekambi Road. Constructing drains and culverts in first 20 miles	10,002



R. C. C. BRIDGE OVER SHASTRI RIVER.
Hatkhamba Poladpur Road, Mile 23.
Elevation of the bridge, showing the R. C. C. Work and centring etc.



DHARAMTAR MAHABALESHWAR ROAD.

Masonry bridge over the Kundlika River in Mile 25 Upstream view of bridge completed upto road level.

		Rs.
102.	Improving the Dharamtar-Mahableshwar Road by raising certain portions in Section I from Dharamtar to Dasgaon miles 13 to 56 (Vadkal Mahad Section)	2,971
103.	Constructing a bridge across the Kundalika river in mile 26 of Dharamtar-Mahableshwar Road	30,036
104.	Constructing a Reinforced Cement Concrete bridge over the Rajapur creek in mile 33 of Pali-Phonda Road	69,902
105.	Constructing a masonry bridge over Piyali river in mile No. 4 of Kasarda Janoli Road..	16,484
106.	Constructing Reinforced Cement Concrete bridge over Shastri and Sonvi rivers in miles 21 and 23 of Hatkhamba-Poladpur Road ..	50,033
107.	Improving the surface of Dharamtar-Mahableshwar Road miles ⅓ to 62 ..	10,082
108.	Providing culverts over 7 big nallas in Section III of Malwan-Phonda Road	49,931
109.	Diversion road outside Mahad town and constructing a bridge over the Gandhari river in mile 55 of Dharamtar-Mahableshwar Road	8,181
110.	Improving Kumta-Hubli Road	23,479
111.	Improving Khanapur-Yellapur Road (Part I)..	4,513
112.	Improving Khanapur-Yellapur Road (Part II)	9,777
113.	Constructing a high level causeway across the Badgani creek in furlong 45/8 of Karwar-Bhatkal-Madras-Frontier Road.. ..	32,000
114.	Improving Kumta-Honawar section of the Karwar-Bhatkal-Madras-Frontier Road ..	34,981
115.	Improving Sirsi-Kodkani Road ..	22,225
116.	Modernising roads in and round about Karwar	26,105
117.	Improving Deogad-Kaladgi Road ..	5,000

A statement showing the Programme of Road Development Works in the Province of Bombay since the institution of the Petrol Tax Fund to end of 1937–38 together with expenditure is given in Appendix VII of this Report.

Scarcity Works.

The scarcity works were carried out during the first half of the year under review in the Kaira and Panch Mahals Division of the Northern Circle. 23 very important works such as improvements to village tanks,

road works, etc., were carried out, the total number of labourers employed being Rs. 41,78,135. The expenditure incurred amount to Rs. 9,05,844 in all.

An expenditure of Rs. 1,918 was incurred from the Famine Relief Fund in the Central Circle during the year. In addition to 6 works in progress 14 new works were started to afford relief to the distressed people in the Southern Circle costing Rs. 3,51,044.

The necessary medical arrangements were made, medicines were stored at each work and table dispensary provided where necessary. The general health and sanitation on all works were satisfactory.

Provincial Road Fund.

Since the creation of this Fund in consequence of the abolition of tolls a sum of Rs. 3,94,000 was allotted to this Department for the first time during the year under report and the same was utilised mainly for maintenance of roads.

Arboriculture.

During the year under Report nurseries were maintained at various places and the planting, watering and protection of road side trees continued to receive attention as usual. The number of trees planted during the period on Provincial and Local Fund roads was Rs. 7,149.

D—MISCELLANEOUS.

Public Health, Water-supply and Drainage Works, etc.

The Poona Water Works Division comprises of 3 water works and one sewage work as follows :—

(1) The Poona Cantonment Water Works.

(2) The Kirkee Water Works including Government House.

(3) The Ambernath Water Works.

(4) The Poona Sewage Works.

In addition to these the following deposit contribution works were carried out during the period.

(1) Maintenance of the Alandi Water Works.

(2) Maintenance of the Matheran Water Works.

(3) Construction of the Poona Drainage Improvements and the Municipal Drainage Works.

	Rs.
The expenditure under the head " 70-Capital Outlay on improvements to Public Health " during the year was..	53,279
(1) Laying 3" Cast Iron main for supplying water to Bhamburda Town Planning Area No. I and Wakdewadi consisting of about 1,777 running feet of pipe line	7,987

WEIR IN THE RIVER INDRAYANI AT ALANDI.
Date of Photo: March 1938.
Date of Commencement of work: 17th Jan. 1937.
Estimated Cost: Rs. 21,481.
Total expenditure: Rs. 21,070.
Work completed: 21 June 1938.

	Rs.
(2) Laying 3″ Cast Iron Pipes for supplying water to the Bungalows on Boat Club Road and Sir Bhandarkar Road comprising of 4,000 running feet of pipe line	6,666
(3) Providing Reinforced Concrete Roof over the Upper Service Reservoir	3,636
(4) Providing 3″ diameter Cast Iron Pipes for the Wilson Garden Development Area, consisting of laying about 1,640 running feet of pipe line with washants and fire hydrants ..	2,810
(5) Providing additional fire hydrants on the existing water-mains in the Poona Cantonment Area	7,260
(6) Seventh instalment to the Military Department towards the purchase of Kirkee Water Works	25,000
(7) Providing and laying Cast Iron mains, on Ardeshir Irani Road, Poona	80

An expenditure of Rs. 16,323 was incurred during the year under the head "39-Public Health—Original Works" as under :—

	Rs.
(1) Constructing a weir across the river Indrayani at Alandi	10,891
(2) Filling up of old Filter Beds and Tanks near Jamshedji Bund	2,017
(3) Providing at compound wall for the Crude Oil Storage Tank in the Poona Station Railway Yard	1,477
(4) Survey estimate for preparing detailed plans and estimates for Salsette Water-supply ..	914
(5) Loss on stock	616
(6) Loss on stock for the half year ending September 1936	408

In addition to the above the water works at Poona, Kirkee and Ambernath and the Pumping Station for the Poona Drainage Works were maintained and sterilized water was made available to the public for domestic purposes.

The following is the expenditure incurred during the year on the undermentioned works :—

	Rs.
(1) Poona Water Works	1,64,776
(2) Kirkee Water Works including Holkar's Bridge and Pashan Tank	63,256

	Rs.
(3) Ambernath Water Works	23,454
(4) Hedges of the Mutha Right Bank Canal from Head Works to 10½ miles to Dhobi Ghat ..	4,790
Charges on account of water leaking from Swar Gate Settling Tanks	4,924

The quantity of raw water pumped during the year from (1) Poona Cantonment Water Works, (2) Kirkee Water Works and (3) Ambernath Water Works, was 1,126·2 million, 203·2 million and 72·3 million gallons respectively.

The following is the actual amount of Revenue realised during the year:—

	Rs.
(1) Poona Water Works	4,48,994
(2) Kirkee Water Works including Government House	1,25,333
(3) Ambernath Water-supply	21,536
Total ..	5,95,863

Bahiroba Pumping Station.

The quantity of sewage pumped at the Bahiroba Pumping Station during the year under review was 1,624 million gallons which averages to about 5·7 million gallons per day. The new pumping machinery installed at this Station, both electrical and Oil Plant was running satisfactorily and could cope with the additional amount of sewage discharged. The expenditure on this work during the year was Rs. 75,620. In addition to these certain minor works amounting to Rs. 3,198 were also carried out during the year.

The following deposit contribution works at a cost of Rs. 84,090 were carried out during the year :—

	Rs.
(1) Alandi Water Works	5,454
(2) Matheran Water Supply	9,105
(3) Slow sand fitter for Mallett Spring Set at Matheran	1,055
(4) Repairs to the Pumping Plant at Matheran ..	440
(5) Maintenance of the Outfall Sewer from the Central Pumping Station, Darwala Bridge to the Bahiroba Pumping Station ..	1,998
(6) Constructing Rail Depôt for the Poona Suburban Municipality	5,384
(7) Poona Suburban Municipal Drainage Works ..	60,654

NIRA LEFT BANK CANAL.
Causeway below Superpassage No. 6 in Mile No. 37 of canal service road.

E—Technical Papers.

The following Public Works Department Technical Paper was issued during the year.

56. Land Drainage in the Deccan Canal areas by W. A. Evershed, B.Sc., M.Inst.C.E., Executive Engineer.

F—Railways.

The railways situated within the Province of Bombay are not administered by this Government but are under the general control of the Railway Board.

No new traffic surveys of any railway projects were carried out during the year, nor have any new lines of railway been opened for further traffic.

The total length of the railways in the Province (excluding Indian States) open for traffic during the year under review was 2,390·196 miles made up as shown below :—

—	Broad gauge miles.	Metre gauge miles.	Narrow gauge miles.	Total miles.
B. B. & C. I. Railway ..	541·218	120·909	142·809	804·936
G. I. P. Railway ..	822·321	....	62·064	884·385
M. & S. M. Railway ..	....	587·875	....	587·875
Barsi Light Railway ..	....	....	113·000	113·000
	1,363·539	708·784	317·874	2,390·196

G—Development Schemes.

(*i*) *Back Bay Reclamation Scheme.*

During the year under report the expenditure incurred on the Back Bay Reclamation Scheme on works and repairs was Rs. 5,94,788 and the following are some of the important works :—

1. Occasional dry filling in Block No. 7 with dry filling material offered free.
2. Providing a sewerage scheme in Blocks Nos. I and II with two Ejector stations.
3. Churchgate Street extension and certain lengths of other roads in the North east portion of Block No. II.
4. Cuffe Parade Extension (first and final stage).

5. Constructing Marine Drive to its full width from plot No. 98 to plot No. 207 complete with drains and lighting arrangements in Blocks Nos. 1 and 2, Back Bay Reclamation Scheme.
6. Constructing sewer drains with accessories under certain lengths of roads in the South-east portion of Block No. II, Back Bay Reclamation Scheme.
7. Constructing certain lengths of roads in the South-east portion of Block No. II.
8. Providing sewers and accessories along certain roads in Blocks Nos. I and II.
9. Providing surface drainage and constructing without paving of foot-paths certain roads in Blocks Nos. I and II.
10. Providing sewers and accessories in Block No. I.
11. Paving of Government portion of the foot-path to the West of Queen's Road and that adjoining plot No. 101 Block No. II.
12. Providing sewers and accessories along the 120 feet, 50 feet and 40 feet wide roads in the South-west corner of Block No. II.
13. Sanitation and Anti-malarial works.
14. Repairs and maintenance of new sea wall and rubble mound.
15. Sale of surplus plant and machinery and temporary structures.

A list of members of the Standing Advisory Committee for the Back Bay Reclamation Scheme will be found in Appendix IX.

(ii) Suburban Schemes.

During the year under report, the laying of branch pipe lines and miscellaneous extensions, purchase and supply of water meters of various sorts and sizes to the public in Salsette and providing and laying a new 5″ cast iron main in place of old 4″ and 3″ pipes at Ghatkopar were undertaken and completed. Besides, repairs and maintenance of pipes already laid previously were carried out at a cost of Rs. 22,368.

Receipts.

The total receipts realized from sales of water, premia receipts, connection fees, etc., amounted to Rs. 6,04,589 during 1937–38.

(iii) Industrial Housing Scheme.

With effect from the 14th December 1937, this subject which was under the administrative control of the Revenue Department was transferred to the control of the Public Works Department as an experimental measure for one year. The scheme consists of 207 chawls. With a

view to popularizing the chawls a Committee consisting of the following personnel was appointed :—

(1) The Honourable the Prime Minister—Chairman.
(2) The Honourable Minister, Public Works Department. } Members.
(3) The Parliamentary Secretary for Labour. }
(4) The Executive Engineer, Presidency Division—Secretary.

Certain minor works such as barricading the entrances to the vacant floors of certain Development Department Chawls, provision of separate wash basins and water taps in some of the rooms of the Chawls, converting rooms into shops, removing certain partition walls and providing doors at suitable places, etc., were carried out during the year under report.

Also additional storage tanks were provided in Development Department Chawl No. 75 at Worli.

All the Development Department Chawls at Naigaum, DeLisle Road, Worli and Sewri were looked after and maintained by the Executive Engineer, Presidency Division, at a total cost of Rs. 84,820.

Thana Division.

Certain minor works such as Surveys and layout of roads, filling in low plots, constructing small extensions of roads in Suburban Scheme No. 3, 6, 7, 16 and 18 (Chembur, Danda, Khar, Shahar and Kirol-north respectively) were carried out during the year under report. The roads and buildings pertaining to the late Development Department were properly maintained.

APPENDIX I.

Statement showing expenditure on civil and military works during the year 1937–38.

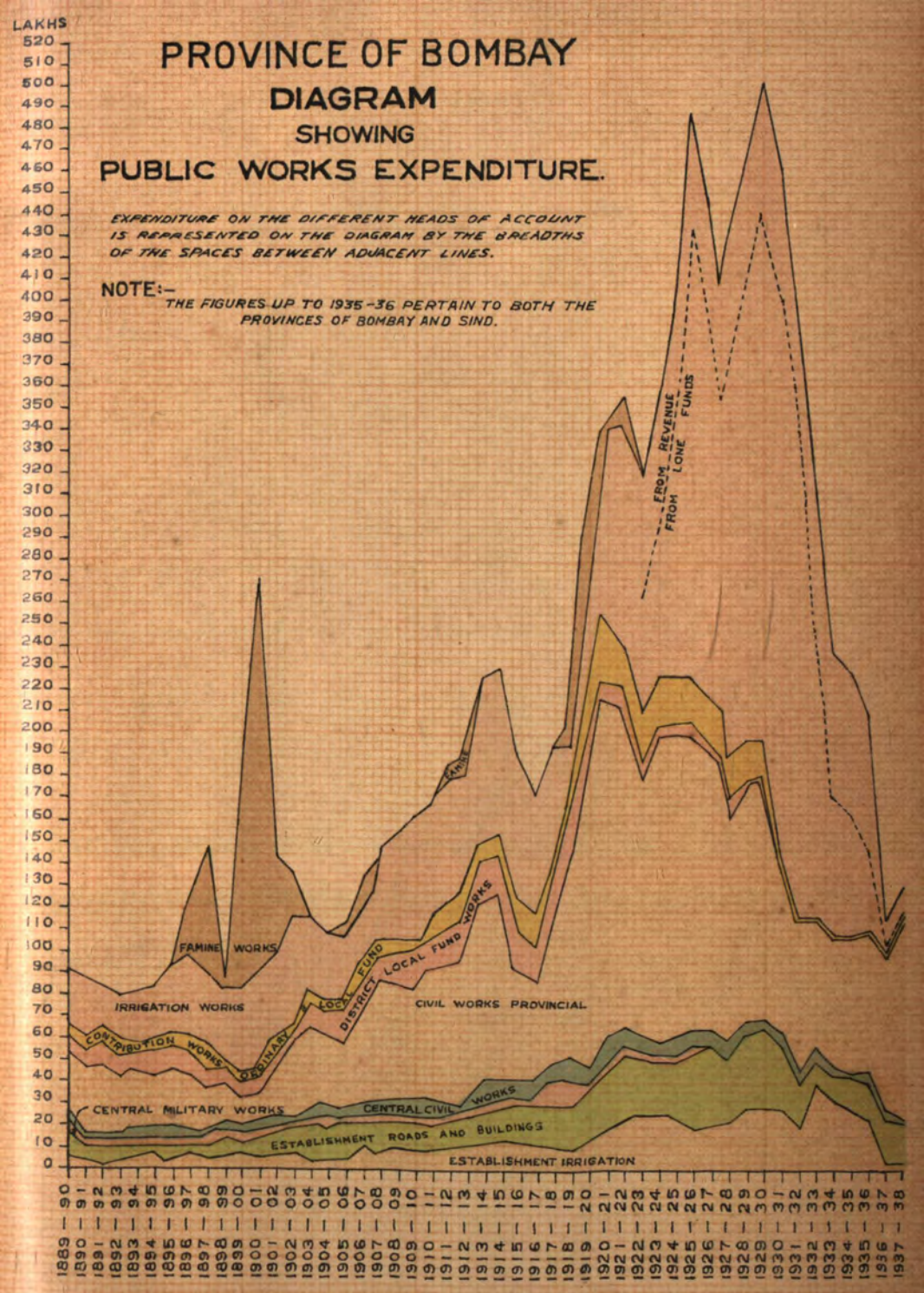
Service Heads.	Original Works.		Repairs.		Total.	
	Grants.	Outlay.	Grants.	Outlay.	Grants.	Outlay.
8—*Military Works.*	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Works—Non-voted ..	....	....	3,810	3,736	3,810	3,736
Establishment—Non-voted ..	....	....	....	....	960	197
Establishment—Voted	....	....	....	....	....	801
Tools and Plant—Non-voted ..	....	....	....	....	108	....
Tools and Plant—Voted ..	....	....	....	....	....	85
Total, Military Works —Non-voted ..	....	....	3,810	3,736	4,878	3,933
Voted ..	....	....	....	....	....	886
50—*Civil Works—Central.*						
Buildings—Non-voted	500	457	20,100	18,893	20,600	19,350
Buildings—Voted ..	51,675	52,011	1,51,300	1,48,359	2,02,075	2,00,370
Establishment—Non-voted ..	....	....	....	....	4,884	12,527
Establishment—Voted	....	....	....	....	48,726	50,931
Tools and Plant—Voted ..	....	....	....	....	6,676	4,946
Suspense—Non-voted.	....	....	....	....	....	—162
Suspense—Voted ..	....	....	....	....	....	—376
Total, 50—Civil Works—Central ..	52,175	52,468	1,71,400	1,67,252	2,83,861	2,87,586
50—*Civil Works—Provincial.*						
Building—Charged ..	37,300	37,076	1,98,700	1,96,688	2,36,000	2,33,764
Building—Voted ..	7,72,366	7,21,867		10,45,283		17,67,150
Communications ..	45,03,552	*42,20,837	39,76,467	†28,58,618	92,55,588	70,79,455
Miscellaneous ..	3,198	3,178		50,133		53,311
Establishment—charged ..	....	....	....	....	‡5,08,190	‡3,71,647
Establishment—Voted	....	....	....	....	§23,64,637	§17,65,031
Carried over ..	58,16,416	49,82,958	41,75,167	41,50,722	1,23,64,410	1,12,70,408
	52,175	52,468	1,75,210	1,70,988	2,88,739	2,92,405

* Inclusive of Rs. 37,90,835 on account of Central Road Fund.
† Inclusive of Rs. 39,057 on account of Central Road Fund.
‡ Inclusive of Rs. 20,575 on account of Central Road Fund.
§ Inclusive of Rs. 5,349 on account of Central Road Fund.

APPENDIX I—*contd.*

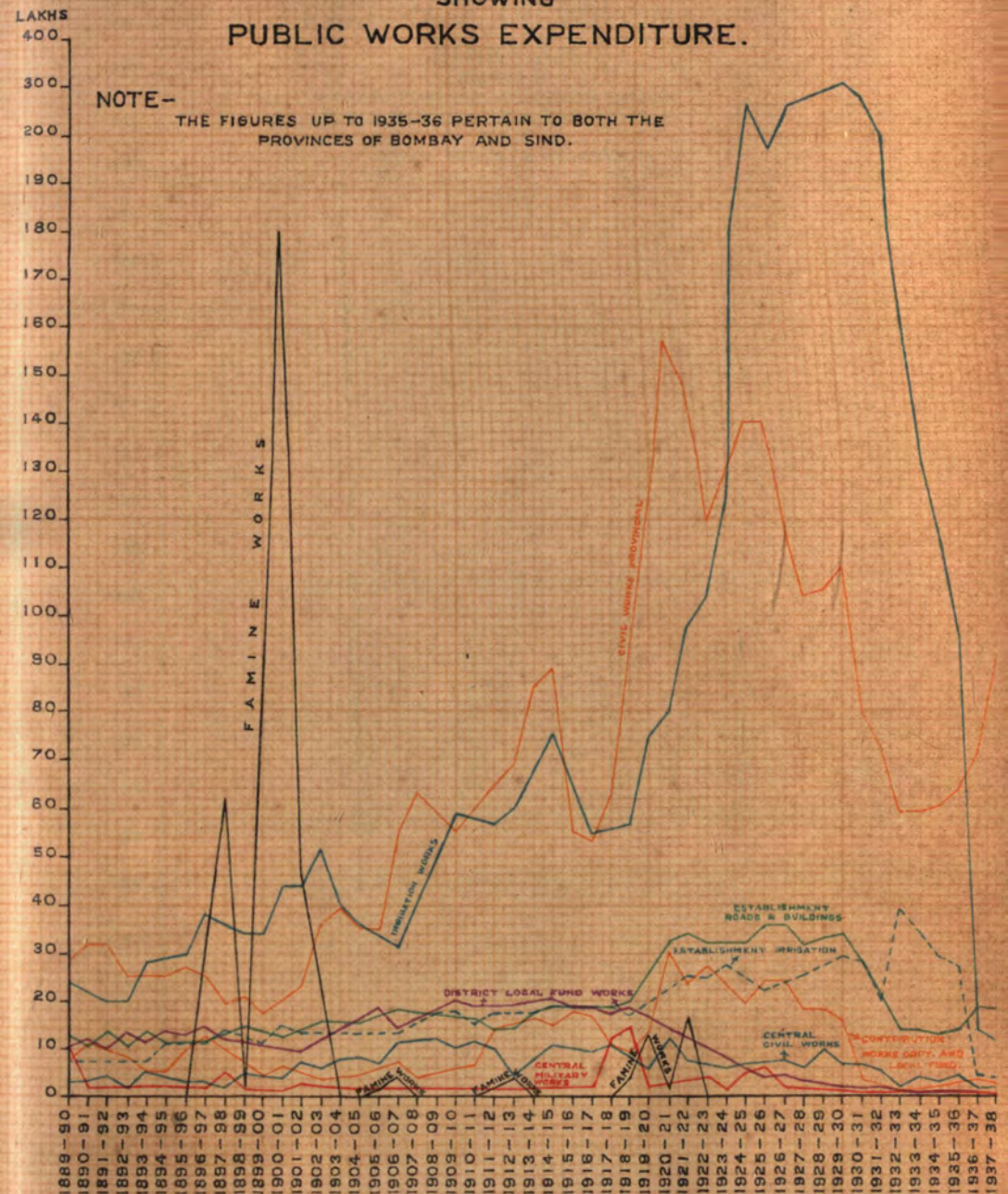
Service Heads.	Original Works.		Repairs.		Total.	
	Grants.	Outlay.	Grants.	Outlay.	Grants.	Outlay.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Brought over ...	52,175	52,468	1,75,210	1,70,988	2,88,739	2,92,405
	53,16,416	49,82,958	41,75,167	41,50,722	1,23,64,410	1,12,70,408
50—*Civil Works—Provincial*—contd.						
Tools and Plant—Voted ..	....	....	....	....	2,40,936	2,01,128
Grants-in-aid ..	....	....	....	....	*11,98,059	*11,62,539
Suspense ..	....	....	....	....	—10,514	—12,872
Charges in England—						
Establishment—Charged ..	....	....	....	....	†1,21,760	†1,19,735
Establishment—Voted ..	....	....	....	....	6,060	6,016
Loss or Gain by exchange—						
Establishment—Charged ..	....	....	....	....	....	‡—620
Establishment—Voted ..	....	....	....	....	....	—31
Total, 50—Civil Works—Provincial.	53,16,416	49,82,958	41,75,167	41,50,722	1,39,20,711	1,27,46,303
81—*Civil Works not charged to Revenue.*						
Communications ..	3,000	2,934	....	....	3,000	2,934
Establishment—charged ..	....	....	....	....	....	133
Establishment—Voted	....	....	....	....	....	566
Tools and Plant—Voted ..	....	....	....	....	....	40
Total, 81—Civil Works not charged to Revenue ..	3,000	2,934	....	....	3,000	3,673
District Local Fund..	....	....	....	....	....	5,280
Deposit contribution .	....	....	....	....	....	2,02,523
Grand Total ..	53,71,591	50,38,360	43,50,377	43,21,710	1,42,12,450	1,33,40,184

* Inclusive of Rs. 31,062 on account of Central Road Fund.
† Inclusive of Rs. 1,784 on account of Central Road Fund.
‡ Inclusive of Rs. 9 on account of Central Road Fund.



G.P.Z.O. POONA, 1938.

PROVINCE OF BOMBAY
DIAGRAM
SHOWING
PUBLIC WORKS EXPENDITURE.

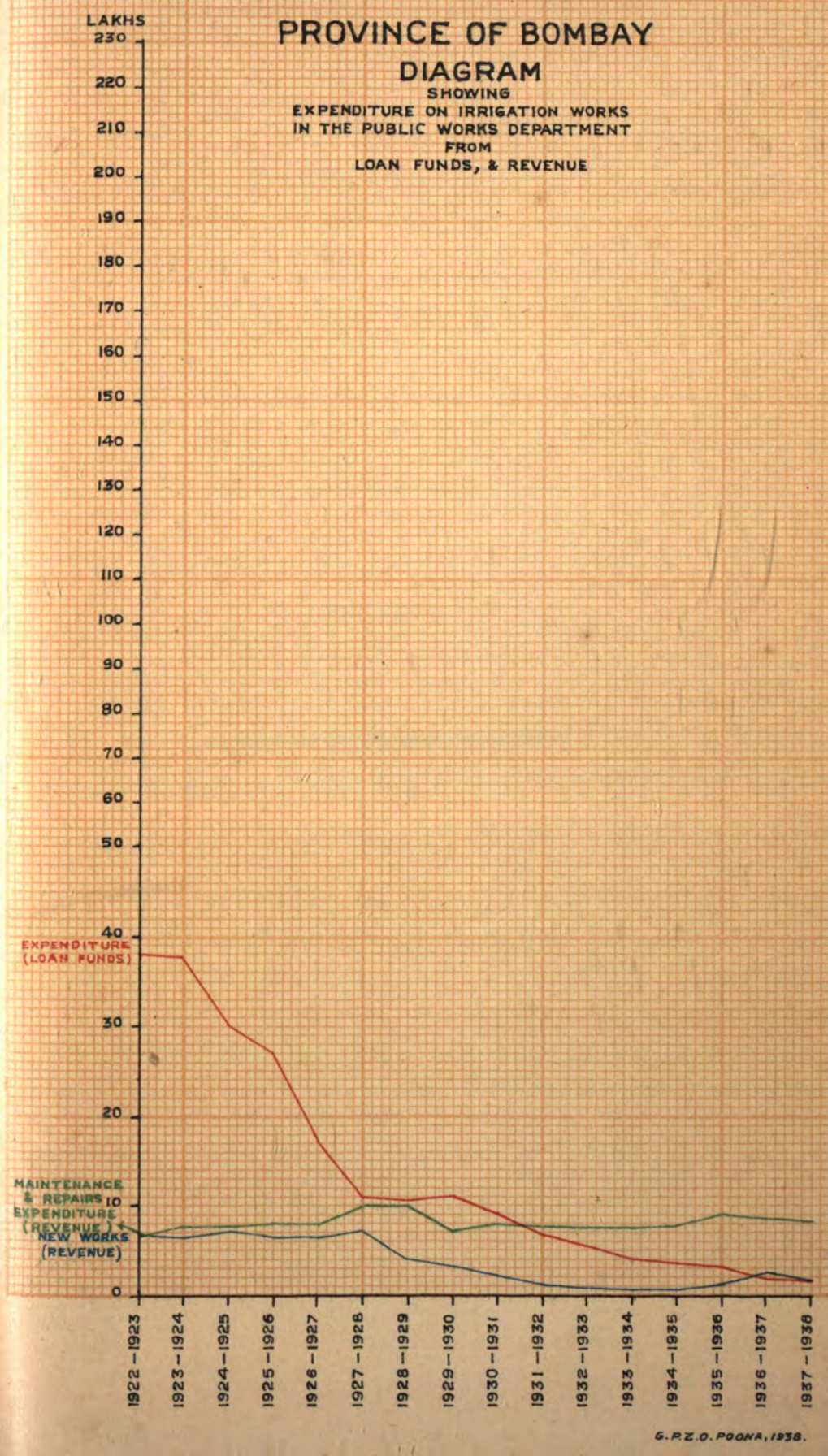


G.P.Z.O. POONA, 1938.

PROVINCE OF BOMBAY

DIAGRAM

SHOWING
EXPENDITURE ON IRRIGATION WORKS
IN THE PUBLIC WORKS DEPARTMENT
FROM
LOAN FUNDS, & REVENUE



G.P.Z.O. POONA, 1938.

APPENDIX II

APPENDIX

Statement of roads not within Municipal limits, giving lengths of metalled Local Authorities in the Province of

Name of Circle.	Name of Division.	Length of metalled roads maintained by the Public Works Department.	Length of unmetalled roads maintained by the Public Works Department.	Length of metalled roads maintained by the Local Authorities.
1	2	3	4	5
		Miles.	Miles.	Miles.
Northern Circle ..	Thana ..	449·25	....	426·14
	Surat	184·88	8·55	136·45
	Broach	53·98	....	34·83
	Kaira	179·90	9·13	60·50
	Panch Mahals ..	156·53	17·25	34·51
	Ahmedabad	158·56	43·38	57·45
	Total ..	1,183·10	78·31	749·88
Central Circle ..	Poona	292·81	22·62	134·75
	Satara	460·07	39·75	318·19
	Sholapur	312·97	46·73	167·16
	Nasik	459·19	9·22	175·22
	Khandesh	675·38	6·05	327·04
	Total ..	2,200·42	124·37	1,122·36
Southern Circle ..	Belgaum	348·64	15·18	215·25
	Dharwar	496·69	19·82	471·57
	Ratnagiri	470·53	....	485·24
	Kanara	464·43	113·27	88·08
	Bijapur	318·42	160·67	181·12
	Total ..	2,098·71	308·94	1,441·26
Deccan Irrigation Circle.	Poona Irrigation ..	201·5	....	....
	Nira Right Bank Canal ..	98·1	....	....
	Ahmednagar ..	264·9	57·6	219·2
				320·6
	Nasik Irrigation ..	47·0	....	....
	Total ..	611·5	57·6	539·8
	Grand Total ..	6,093·73	569·22	3,853·30
	Grand Total of Previous Year.	5,978·62	630·82	3,763·66

II.

and unmetalled roads maintained by the Public Works Department and the Bombay during the year 1937-38.

Length of unmetalled roads maintained by the Local Authorities.	Total length of metalled roads.	Total length of unmetalled roads.	Remarks.	
			Metalled roads maintained by the Public Works Department in Municipal limits.	Unmetalled roads maintained by the Public Works Department in Municipal limits.
6	7	8	9	10
Miles.	Miles.	Miles.	Miles.	Miles.
247·85	875·39	247·85	26·73	....
329·01	321·33	337·56	....	....
192·80	88·81	192·80	1·36	....
26·10	240·40	35·23	10·61	....
19·55	191·04	36·80	1·38	....
298·69	216·01	342·07	....	....
1,114·00	1,932·98	1,192·31	40·08	....
765·25	427·56	787·87	37·51	....
1,322·81	778·26	1,362·56	24·92	1·37
503·22	480·13	549·95	31·44	2·50
1,636·72	634·41	1,645·94	18·69	0·30
726·84	1,002·42	732·89	32·51	1·28
4,954·84	3,322·78	5,079·21	145·07	5·45
344·27	563·89	359·45	11·29	....
318·15	968·26	337·97	14·31	4·49
1,047·58	955·77	1,047·58	17·36	....
546·60	552·51	659·87	17·79	3·83
161·09	499·54	321·76	15·85	....
2,417·69	3,539·97	2,726·63	76·60	8·32
....	201·5	....	0·8	....
....	98·1	....	1·0	....
....	484·1	57·6	6·3	....
321·0	320·6	321·0	....	....
....	47·0	....	....	....
321·0	1,151·3	378·6	8·1	....
8,807·53	9,947·03	9,376·75	269·85	13·77
9,403·88	9,742·28	10,034·70	261·53	14·02

APPENDIX

Mileage of surfaced roads of various classes and

Province or State.	Water bound			
	Stone metal only.			Kunkar, brick
1	2			
	P. W. D.	Local.	Total.	P. W. D.
Bombay.	Miles.	Miles.	Miles.	Miles.
Northern Circle	1,067·83	1,003·90	2,071·73	66·41
Central Circle	2,215·25	1,412·15	3,627·40	23·91
Southern Circle	1,686·06	1,024·86	2,710·92	472·91
Deccan Irrigation Circle	797·36	356·80	1,154·16	....
Total ..	5,766·50	3,797·71	9,564·21	563·23

Province or State.	Bitumen, asphalt, tar or pitch grouted macadam.			Premix bitumen, tar or pitch.	
1	6			7	
	P. W. D.	Local.	Total.	P. W.D.	Local.
Bombay.	Miles.	Miles.	Miles.	Miles.	Miles.
Northern Circle	17·27	51·17	68·44	44·84	99·16
Central Circle	10·65	0·31	10·96	42·51	25·37
Southern Circle	8·05	..	8·05	11·40	..
Deccan Irrigation Circle	1·00	..	1·00	4·70	3·37
Total ..	36·97	51·48	88·45	103·45	127·90

III.

motorable earth roads as on 31st March 1938.

macadam.							
laterite or metal.		Other low type surfaces (murum, gravel, sand and clay).			Surface treated wth tar, pitch, asphalt or bitumen.		
3		4			5		
Local.	Total.	P. W. D.	Local.	Total.	P. W. D.	Local.	Total.
Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.
107·60	174·01	29·09	576·64	605·73	35·10	161·35	196·45
3·00	26·91	117·41	2,126·11	2,243·52	4·59	30·19	34·78
299·71	772·62	292·21	1,676·05	1,968·26	7·07	....	7·07
....	....	58·62	315·8	373·92	5·08	....	5·08
410·31	973·54	497·33	4,694·10	5,191·43	51·84	191·54	243·38

asphalt,	Cement concrete or macadam.			Fair-weather motorable earth roads.			Other motorable roads which cannot be classified under previous headings.			Remarks.
	8			9			10			11
Total.	P.W.D.	Local.	Total.	P.W.D.	Local.	Total.	P.W.D.	Local.	Total.	
Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	
144·00	2·01	12·53	14·54	40·63	507·91	548·54	..	264·42	264·42	
67·88	5·70	3·86	9·56	..	1,056·55	1,056·55	10·19	1,028·51	1,038·70	
11·40	..	..	..	11·25	848·66	859·91	..	7·50	7·50	
8·07	..	..	..	..	..	..	..	..	..	
231·35	7·71	16·39	24·10	51·88	2,413·12	2,465·00	10·19	1,300·43	1,310·62	

APPENDIX

Statement showing the expenditure on Provincial Buildings and

	1921–22		1922–23		1923–24		1924–
	50–C.W. Provincial.	81–C.W.	50–C.W. Provincial.	81–C.W.	50–C.W. Provincial.	81–C.W.	50–C.W. Provincial
1	2	3	4	5	6	7	8
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
(*i*) Expenditure on buildings for original works ..	70,17,468	..	18,40,250	21,36,237	12,74,148	46,74,102	11,72,871
(*ii*) Expenditure on buildings for maintenance ..	11,03,937	..	13,79,087	..	15,99,041	..	14,60,217
(*iii*) Expenditure on metalled Provincial roads for original works ..	19,39,046	..	15,22,488	6,04,035	10,92,068	4,54,014	5,36,719
(*iv*) Expenditure on unmetalled Provincial roads for original works ..	5,00,155	..	97,110	20,903	72,046	20,043	63,501
(*v*) Expenditure on metalled Provincial roads for maintenance ..	19,85,51	..	24,27,684	..	26,60,387	..	27,73,038
(*vi*) Expenditure on unmetalled Provincial roads for maintenance ..	2,53,711	..	2,35,632	..	2,83,378	..	2,81,022

iV.

Roads in the Province of Bombay from 1921–22 to 1937–38.

25	1925–26		1926–27		1927–28		1928–29	
81–C.W.	50–C.W. Provincial.	81–C.W.	50–C.W. Provincial.	81–C.W.	50–C.W. Provincial.	81–C.W.	50–C.W. Provincial.	81–C.W.
9	10	11	12	13	14	15	16	17
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
36,09,790	12,24,807	38,98,200	22,22,421	17,71,645	9,72,027	13,90,972	9,61,174	19,07,442
..	15,22,903	..	15,95,217	..	17,04,033	..	16,43,248	..
24,18,810	8,30,136	11,41,309	11,19,552	4,09,201	7,95,102	6,26,052	7,40,068	5,42,195
1,14,266	1,36,210	33,048	2,50,893	..	1,65,007	..	1,05,900	..
..	28,80,514	..	30,98,522	..	32,12,327	..	30,99,797	..
..	2,53,438	..	2,55,920	..	2,82,058	..	2,67,776	..

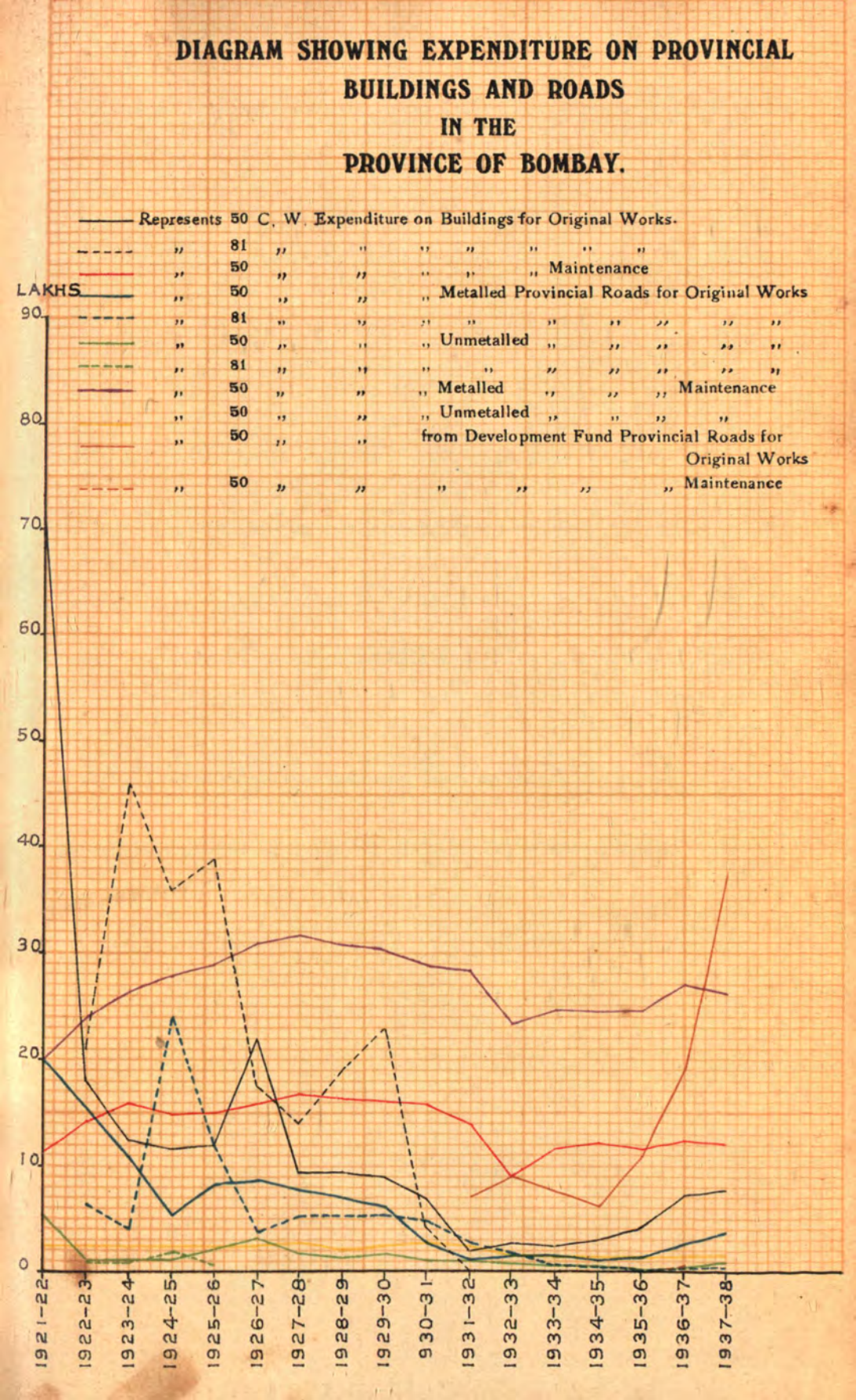
APPENDIX

1	1929–30		1930–31		1931–32		1932–33	
	50–C.W. Provincial.	81–C.W.	50–C.W. Provincial.	81–C.W.	50–C.W. Provincial.	81–C.W.	50–C.W. Provincial.	81–C.W.
	18	19	20	21	22	23	24	25
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
(*i*) Expenditure on buildings for original works ..	8,88,923	22,83,762	7,15,423	4,32,192	2,38,311	20,397	2,51,734	1,329
(*ii*) Expenditure on buildings for maintenance ..	15,91,742	..	15,54,193	..	13,73,726	..	9,88,704	..
(*iii*) Expenditure on metalled Provincial roads for original works ..	5,81,922	5,41,635	3,07,467	4,85,007	1,39,416	2,91,305	1,26,240	1,55,551
(*iv*) Expenditure on unmetalled Provincial roads for original works ..	1,11,174	..	81,815	..	29,564	..	23,447	..
(*v*) Expenditure on metalled Provincial roads for maintenance ..	30,95,981	..	29,37,136	..	28,08,480	..	23,36,068	..
(*vi*) Expenditure on unmetalled Provincial roads for maintenance ..	2,54,990	..	2,98,830	..	2,30,071	..	1,61,682	..
(*vii*) Expenditure from Road Development Fund in connection with Provincial roads for original works.	....	..	3,00,076	..	7,35,418	..	9,06,785	..
(*viii*) Expenditure from Road Development Fund in connection with Provincial roads for maintenance...	..	..	..	..	....	..	13,078	..

IV—*contd.*

1933–34		1934–35		1935–36		1936–37		1937–38	
50-C.W. Provincial.	81-C.W.	50-C.W. Provincial.	81-C.W.	50-C.W. Provincial.	81-C.W.	50-C.W. Provincial.	81-C.W.	50-C.W. Provincial.	81-C.W.
26	27	28	29	30	31	32	33	34	35
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
2,46,766	11,002	3,19,300	..	4,31,114	..	7,27,341	..	7,58,043	..
11,83,317	..	12,07,028	..	11,94,726	..	12,09,204	..	12,41,971	..
1,17,263	51,711	1,13,558	23,462	1,45,887	2,405	2,30,854	1,986	3,38,588	2,934
23,622	..	7,724	..	4,020	..	28,464	..	91,464	..
24,82,335	..	24,45,526	..	24,60,631	..	27,00,519	..	26,39,980	..
1,60,738	..	1,50,635	..	1,56,294	..	1,60,055	..	1,79,631	..
8,08,461	..	6,77,174	..	11,09,200	..	19,23,773	..	37,00,835	..
20,253	..	44,383	..	16,500	..	44,726	..	39,057	..

DIAGRAM SHOWING EXPENDITURE ON PROVINCIAL BUILDINGS AND ROADS IN THE PROVINCE OF BOMBAY.



APPENDIX V

APPENDIX

Statement showing the expenditure on District Local Board Roads in the 1921-22

——	1921-22.	1922-23.	1923-24.	1924-25.	1925-26.	1926-27.	1927-28.
1	2	3	4	5	6	7	8
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
(1) Expenditure on metalled District Local Board roads for original works in the Province of Bombay ..	1,80,641	2,11,788	2,45,635	1,85,618	2,22,085	2,14,017	2,98,423
(2) Expenditure on unmetalled District Local Board roads for original works in the Province of Bombay	1,60,724	94,250	1,28,734	1,17,791	1,78,703	2,97,654	3,18,374
(3) Expenditure on metalled District Local Board roads for maintenance in the Province of Bombay ..	4,51,946	5,68,794	5,44,584	5,68,349	6,21,726	7,48,360	7,59,703
(4) Expenditure on unmetalled District Local Board roads for maintenance in the Province of Bombay	5,18,795	4,55,687	5,30,217	4,92,900	6,36,110	6,79,365	5,91,524

V.

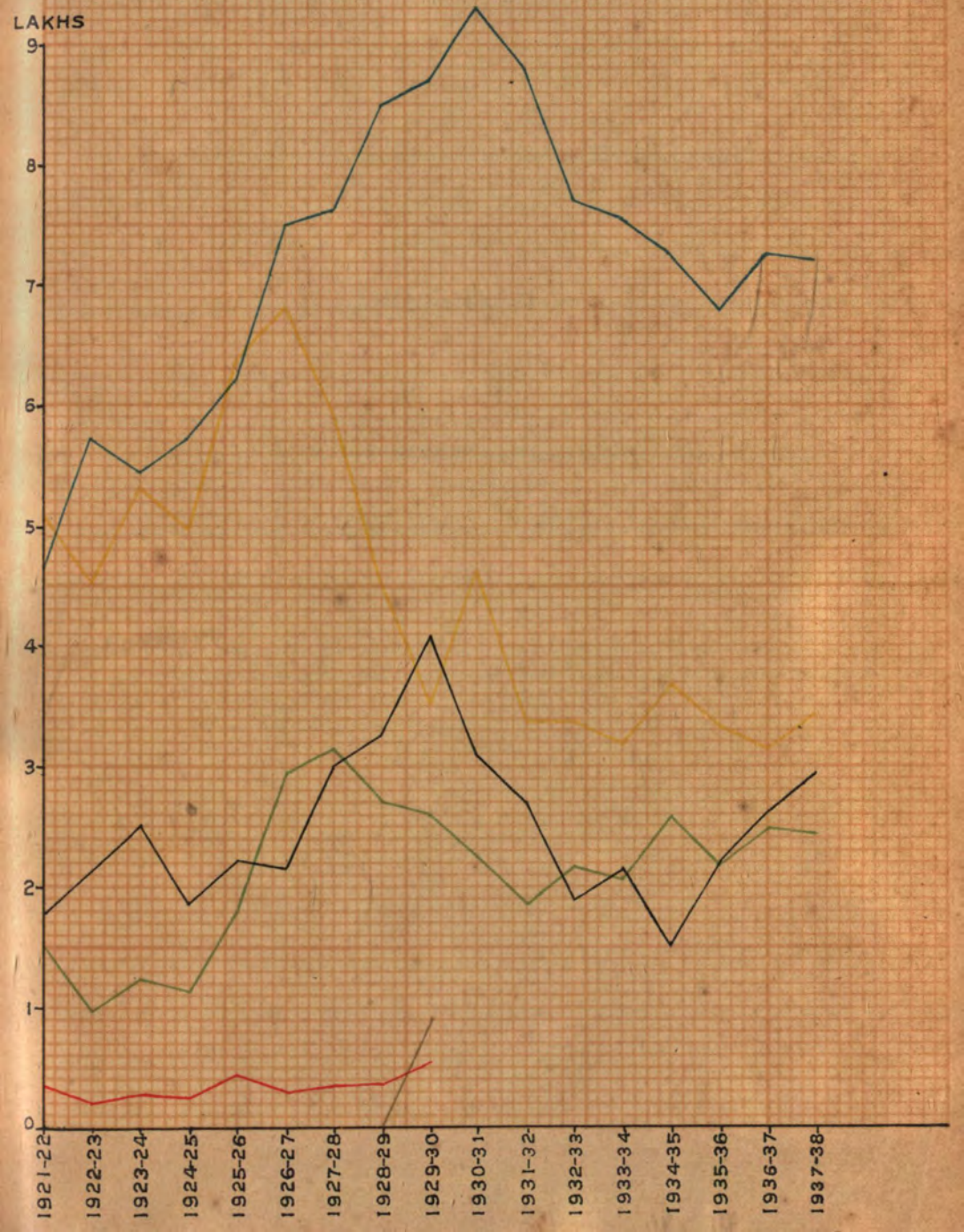
Province of Bombay (original works and repairs) from to 1937–38.

1928–29.	1929–30.	1930–31.	1931–32.	1932–33.	1933–34.	1934–35.	1935–36.	1936–37.	1937–38.
9	10	11	12	13	14	15	16	17	18
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
3,29,532	4,11,234	3,07,573	2,69,334	1,92,344	2,16,078	1,52,374	2,21,560	2,62,065	2,95,060
2,72,491	2,62,260	2,28,956	1,80,361	2,13,520	2,06,288	2,57,200	2,18,755	2,48,945	2,44,517
8,52,468	8,73,140	9,31,651	8,81,092	7,66,140	7,53,558	7,27,755	6,78,079	7,28,847	7,23,461
4,57,202	3,51,071	4,62,352	3,36,081	3,36,020	3,17,477	3,63,204	3,27,876	3,10,010	3,40,229

DIAGRAM SHOWING EXPENDITURE ON D.L.B. ROADS IN THE PROVINCE OF BOMBAY.

ORIGINAL WORKS AND REPAIRS.

Expenditure on unmetalled D. L. B. roads for Maintenance in the Province of Bombay.
" " Metalled " " " " " " " " " "
" " " " " " Original Works " " " "
" " Unmetalled " " " " " " " " "
" " Metalled and Unmetalled D.L.B. Roads for Original Works and Repairs in the Ratnagiri Dist. not included in the Province of Bombay.
" " Metalled and Unmetalled D.L.B Roads for Original Works and Repairs in the Bijapur Dist. not included in the Province of Bombay.



APPENDIX VI

APPENDIX

Statement showing expenditure on establishment in the Roads and Buildings and the percentage on the total outlay on works and

Year	Expenditure on Establishment in the Roads and Buildings Branch						
	50—Civil Works—Provincial	81—Civil Works	50—Civil Works—Central	8—Military Works	Deposit Works	Total Establishment charges.	Percentage on the total outlay on works and repairs in the Roads and Buildings Branch
1	2	3	4	5	6	7	8
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
1921-22 ..	29,06,955	..	1,98,683	45,258	2,84,902	34,35,888	19·26
1922-23 ..	20,14,040	8,34,450	1,78,163	71,481	77,143	31,75.877	20·79
1923-24 ..	15,84,488	8,10,645	67,892	38,560	6,88,354	31,89,939	19·88
1924-25 ..	16,89,892	12,25,632	1,19,721	27,862	2,52,556	33,15,663	19·67
1925-26 ..	18,89,417	12,05,078	1,01,876	69,049	2,58,535	35,23,955	20·66
1926-27 ..	25,30,286	5,97,486	1,08,890	5,882	3,94,389	36,96,939	23·76
1927-28 ..	21,99,448	5,59,107	1,40,132	5,042	2,97,270	32,09,999	24·96
1928-29 ..	22,40,393	6,56,713	2,29,540	2,240	2,56,180	33,85,066	25·03
1929-30 ..	22,45,450	7,33,867	1,56,773	3,638	2,34,897	33,74,625	25·26
1930-31 ..	25,51,711	1,80,139	1,72,163	2,415	85,444	29,91,872	32·35
1931-32 ..	25,93,104	2,32,929	1,22,799	3,132	44,132	29,96,146	38·70
1932-33 ..	23,74,603	71,981	85,143	3,334	17,156	25,52,217	39·79
1933-34 ..	22,73,945	31,807	71,866	3,810	30,502	24,11,930	37·97
1934-35 ..	21,88,729	38,278	62,472	2,693	47,004	23,39,866	35·82
1935-36 ..	20,51,807	808	89,984	1,539	54,593	21,98,731	35·75
1936-37 ..	23,14,593	619	61,850	1,124	57,679	24,35,874	31·66
1937-38 ..	22,61,828	699	58,352	998	47,319	23,47,689	24·46

Note—The percentage of the establishment charges on the cost of works and repairs in the (column 8). The reason is largely that the establishment charges in the Irrigation Branch include certain canal systems which has no connection with the execution of works and repairs, spent on revenue management including the *control and distribution of water*, which is debited in the ment charges debited in the accounts to "revenue management." are deducted from the total cost so divergent. The increase in the rate per cent. in the R. & B. Branch is mainly due to decrease in which expenditure on works is reduced. A more overall percentage on expenditure on works is

The figures from the year 1921-22 to 1934-35 pertain both to the Province of Bombay and Sind.

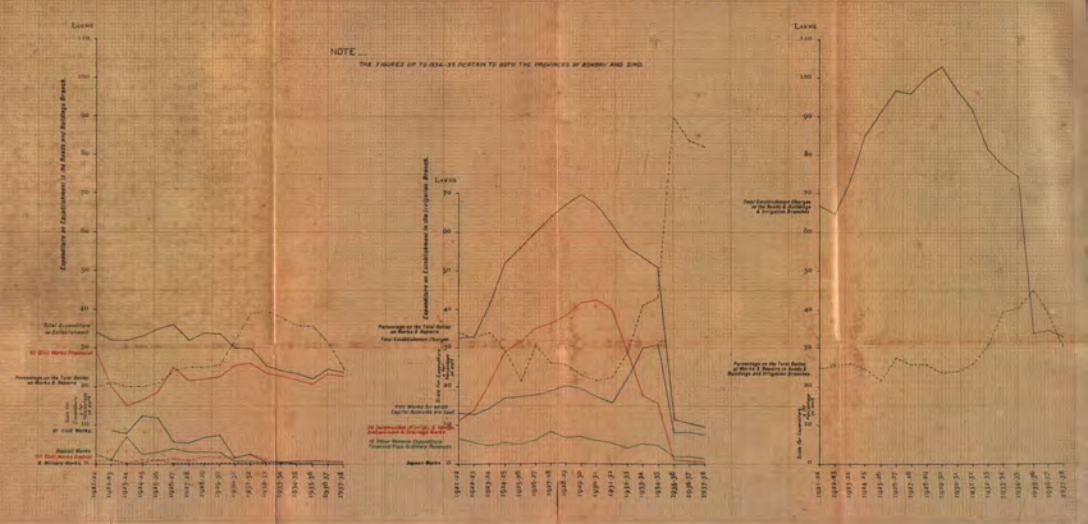
VI.

the Irrigation Branches of the P. W. D. from the year 1921-22 to 1937-38 and *repairs during that period in both the Branches.*

Expenditure on Establishment in the Irrigation Branch						Total Establishment charges in the Roads and Buildings and Irrigation Branches	Percentage on the total outlay of works and repairs in the Roads and Buildings and Irrigation Branches
68—Construction of Irrigation, Navigation, Embankment and Drainage Works	XVII-Works for which capital accounts are kept	18—Other Revenue Expenditure financed from Ordinary Revenue	Deposit Works	Total establishment charges	Percentage on the total outlay on works and repairs in the Irrigation Branch		
9	10	11	12	13	14	15	16
Rs.	Rs.	Rs.	Rs.	Rs.		Rs.	
11,53,734	13,85,960	6,68,651	2,770	32,11,115	33·59	66,47,003	24·26
14,20,751	13,44,901	5,34,327	1,993	33,01,972	32·22	64,77,849	25·38
21,87,793	14,43,222	4,32,013	2,056	40,65,084	33·89	72,55,023	25·87
29,10,785	17,37,724	5,26,361	492	51,75,362	28·73	84,91,025	24·35
32,21,647	17,99,343	5,19,228	2,681	55,42,899	21·62	90,66,854	21·23
35,56,959	18,08,385	5,94,989	3,207	59,63,540	30·56	96,60,479	27·54
36,98,956	19,20,773	7,80,312	3,847	64,03,888	26·00	96,13,887	25·64
39,04,670	21,35,939	6,16,601	2,750	66,59,960	25·51	1,00,45,026	25·35
42,26,873	21,08,302	6,18,312	1,012	69,54,499	23·26	1,03,29,124	23·88
42,88,966	18,31,149	5,99,621	1,734	67,21,470	21·60	97,13,342	24·06
40,37,972	16,34,041	5,18,627	86	61,90,696	22·40	91,86,842	25·97
28,70,427	23,53,971	4,01,329	680	56,26,407	28·54	81,78,624	31·30
17,60,090	29,83,531	5,14,407	48,960	53,06,988	40·41	77,18,918	39·61
15,36,830	30,98,255	4,55,037	441	50,90,563	42·89	74,30,429	40·38
1,37,301	8,66,476	1,73,501	61	11,77,339	89·46	33,76,070	45·21
74,021	8,24,868	1,63,507	620	10,63,016	83·73	34,98,890	39·04
68,679	7,70,784	1,27,039	73	9,66,575	82·27	33,14,264	30·77

Irrigation Branch (column 14) is generally higher than that in the Roads and Buildings Branch the cost of Special Revenue Establishment employed entirely on "revenue management" work on and that these charges also include cost of part of the time of Irrigation establishment accounts to "revenue management" and not to execution of works and repairs. If these establish- of establishment in the Irrigation Branch the percentage on the cost of works and repairs will not be outlay on "works" and "repairs". Establishment charges cannot be reduced in the same ratio in inaccurate.

PROVINCE OF BOMBAY
DIAGRAM SHOWING EXPENDITURE
ON ESTABLISHMENT
IN THE
ROADS & BUILDINGS & IRRIGATION BRANCHES
OF THE
PUBLIC WORKS DEPARTMENT
AND
PERCENTAGES TO THE TOTAL OUTLAY ON WORKS AND REPAIRS



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APPENDIX VII.

Statement showing the programme of road development works in the Province of Bombay to end of the year 1937–38, together with the expenditure to end of that year.

Serial No.	Name of work.	Estimated cost.	Expenditure to end of 1937–38.
		Rs.	Rs.
	Class I.		
1	Bombay-Agra Road	8,27,875	7,71,881
2	Bombay-Poona-Bangaloro Road	21,99,066	15,55,456
3	Bombay-Konkan-Goa Road	35,13,016	19,05,326
4	Bombay-Ahmedabad-Rajputana Road ..	10,83,122	9,20,041
5	Surat-Dhulia-Bhusawal-Edlabad-Nagpur Road.	6,12,126	2,87,173
6	Ahmedabad-Kaira-Godhra-Indore Road ..	1,42,094	1,30,441
7	Bombay-Poona-Ahmednagar-Aurangabad Road	9,783	9,698
8	Bombay-Poona-Sholapur-Hyderabad Road ..	3,37,024	3,25,769
9	Chiplun-Karad-Jath-Bijapur-Sindgi-Raichur Road	6,40,005	3,68,034
10	Poladpur-Mahableshwar-Sural Road ..	27,325	23,776
11	Sholapur-Bijapur-Hubli Road ..	2,69,969	2,22,409
12	Ratnagiri-Kolhapur-Miraj-Bijapur-Hyderabad Road	4,87,138	1,24,142
13	Karwar-Bellary Road	2,05,193	1,95,135
	Class II.		
14	Bandra-Ghodbunder Road	2,64,515	2,17,456
15	Dahanu-Vihigaon Road	1,41,872	31,369
16	Kaira-Mehmedabad-Mahuda-Dakor Road ..	56,221	28,149
17	Ranpur-Dhandhuka-Dholléra Road ..	21,218	12,012
18	Ahmedabad-Viramgam-Mandal Road ..	2,74,666	2,71,645
19	Alibag-Dharamtar-Pen-Campoli Road ..	69,044	70,225
20	Kurla-Andheri-Versova Road	1,67,163	83,343
21	Ahmedabad-Gogho Road	2,39,520	1,52,038
22	Ahmednagar-Dhond Road	17,491	2,999
23	Barhanpur-Raver-Yawal-Chopda-Shirpur-Taloda-Raisingpur Road	7,26,900	87,097

APPENDIX VII—*contd.*

Serial No.	Name of work.	Estimated cost.	Expenditure to end of 1937–38.
		Rs.	Rs.
	Class II—contd.		
24	Ghoti-Rajur-Sangamner-Belapur-Newasa-Shevgaon-Paithan Road	1,71,218	1,35,022
25	Nasik-Poona Road	1,95,912	1,88,171
26	Roads in Poona (I, II and III instalments) ..	5,57,147	5,26,605
27	Indapur-Baramati-Nira Road	1,85,349	1,10,594
28	Sholapur-Osmanabad Road	29,977	10,000
29	Gotur-Tasgaon Road	36,342	9,991
30	Deoghad-Kalatgi Road	28,947	5,000
31	Dharwar-Saundatti-Yergatti-Gokak-Sankeshwar Road	61,476	20,457
32	Belgaum-Khanapur-Haliyal-Yellapur-Sirsi-Kodkani-Mysore Frontier Road ..	1,43,496	99,149
33	Kumta-Sirsi-Hubli Road	2,40,771	1,79,987
34	Havnur-Ekambi Road	84,076	10,500
	Class III.		
35	Mandvi-Madhi Road	12,213	11,175
36	Osmanabad-Yedshi-Chousala Road ..	31,356	28,405
37	Dharwar-Goa Frontier Road	12,448	12,393
38	Karwar to Goa Frontier	16,686	15,192
39	Karwar-Bhatkal-Madras Frontier Road ..	1,74,786	99,374
40	Juhu-Santa Cruz Road	47,605	24,957
41	Madhi-Buhari Road	38,689	14,990
42	Dohad-Jhalod Road	28,575	24,067
43	Dhollera to New Dhollera Port	3,33,100	29,964
44	Phalton-Baramati-Sangvi Road	1,06,850	38,797
45	Nasik-Trimbak-Gondhaghat Road ..	49,300	50,413
46	Camp-Deolali Road	92,434	11,997
47	Kolhar-Talikot Road	1,89,178	48,721
48	Bijapur-Bagewadi Road	1,06,780	34,486

APPENDIX VII—*concld.*

Serial No.	Name of work.	Estimated cost.	Expenditure to end of 1937-38.
	Class III—contd.	Rs.	Rs.
49	Indi-Shirdon Road	31,728	9,812
50	Kamatgi-Gadag Road	35,507	6,852
51	Modernization of Roads passing through towns and villages	11,20,153	6,52,851
52	Tools and Plant	....	76,877
53	Repairs to above	....	39,057
54	Cost of repairs and maintenance of works financed from the Road Account ..	....	1,44,940
55	Cost of survey works for the preparation of plans and estimates and trial borings ..	9,240	7,139
56	Cost of road experimental works	1,12,191	1,00,291
	Total ..	1,66,15,874	1,05,73,860

APPENDIX VIII.

List of members on the Board of Communications on the 31st March 1938.

1. The Honourable Mr. M. Y. Nurie, Minister for Public Works (*Chairman*).
2. N. B. Baxter, Esquire, I.S.E., Chief Engineer and Secretary to Government, Public Works Department.
3. J. H. Garrett, Esquire, C.S.I., I.C.S., Commissioner, Northern Division.
4. J. W. Smyth, Esquire, C.S.I., C.I.E., I.C.S., Commissioner, Central Division.
5. J. A. Madan, Esquire, C.I.E., I.C.S., Commissioner, Southern Division.
6. H. T. Sorley, Esquire, I.C.S., Secretary to Government, General Department.
7. H. V. R. Iyengar, Esquire, I.C.S., Secretary to Government, Finance Department.
8. R. A. Fitzherbert, Esquire, I.S.E., Superintending Engineer, Road Development and Secretary, Board of Communications.
9. The Chief Engineer, Southern Command, Poona.
10. Honourable Mr. R. H. Parker, Member, Council of State, Representative of the Standing Committee for Roads.
11. N. D. Deodhekar, Esquire, M.L.C.
12. Rao Bahadur G. K. Chitale, M.L.A.
13. G. K. Desai, Esquire, M.L.A.
14. Sir Ali Mahomed Khan Dehlavi, Kt., M.L.A.

Representatives, District Local Boards.

15. A representative of the G. I. P. Railway.
16. H. E. Ormerod, Esquire, Representative of the Indian Roads and Transport Development Association.
17. N. M. Chinoy, Esquire, Representative of the Western India Automobile Association.
18. G. O. Pike, Esquire, Representative of the Bombay Chamber of Commerce.
19. K. S. Ramchandra Iyer, Esquire, Representative of the Indian Merchants' Chamber.
20. M. L. Dahanukar, Esquire, Representative of the Maharashtra Chamber of Commerce.

APPENDIX IX.

List of members of the Standing Advisory Committee for the Back Bay Reclamation Scheme for the year 1937-38.

	Name of Member.	Constituency.
1.	Mr. L. A. Halsall (*Chairman*)	The Bombay Chamber of Commerce.
2.	Mr. Manu Subedar	Indian Merchants' Chamber.
3.	Mr. V. N. Chandavarkar	Millowners' Association, Bombay.
4.	Mr. Hoseinbhoy A. Lalljee	The Bombay Municipal Corporation.
5.	Mr. G. E. Bennett, M.Sc., M.Inst.C.E., Chief Engineer, Bombay Port Trust	Nominated by Government.
6.	Mr. N. V. Modak, City Engineer, Bombay Municipality	
7.	Mr. F. H. Taylor, F.S.I., M.R.S.I., Manager, Land and Bunders, Bombay Port Trust ..	
8.	Mr. K. S. Framji, C.I.E.	
9.	Mr. H. Foster-King, F.R.I.B.A., Chartered Architect.	

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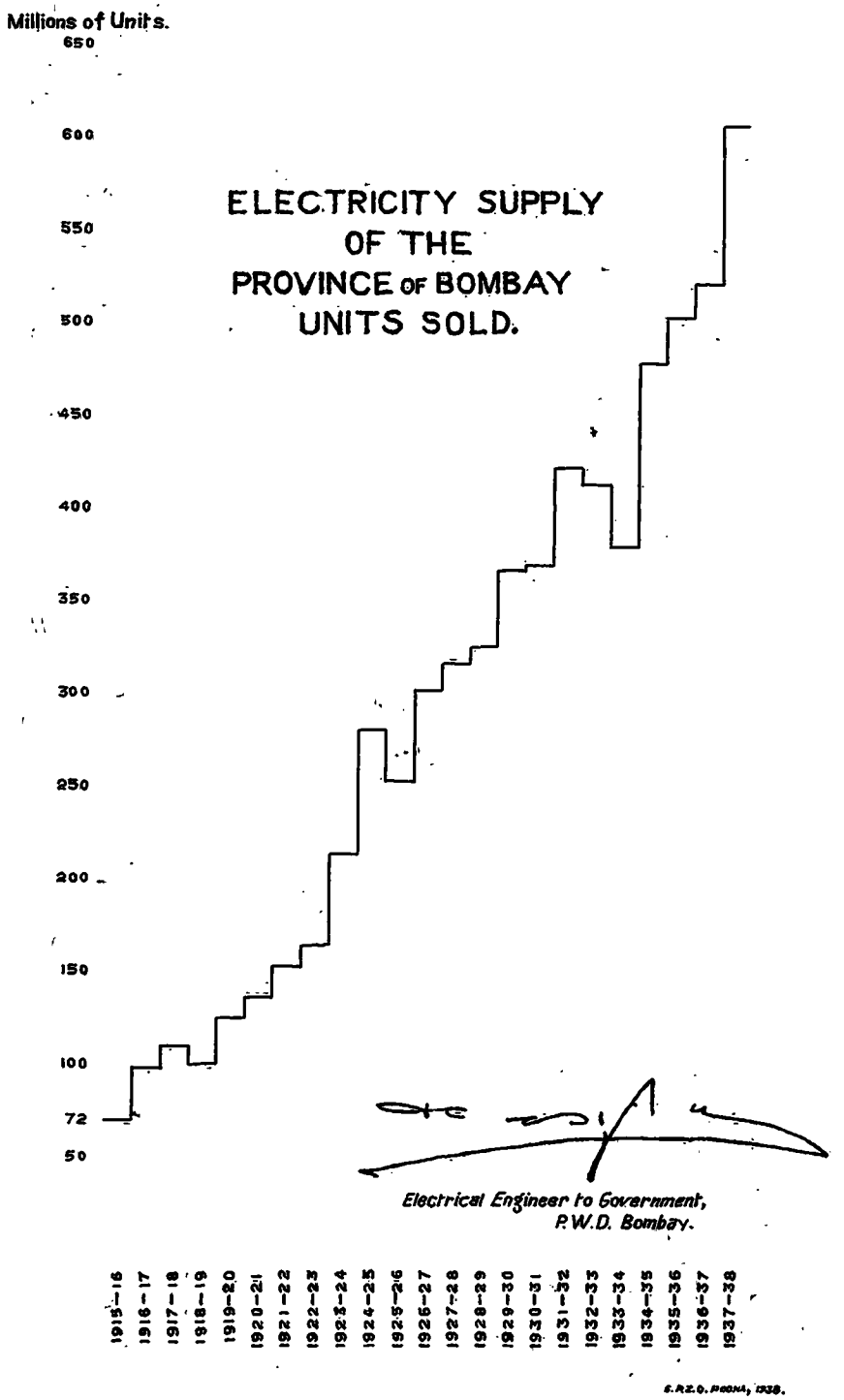

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